

INITIAL STUDY

FOR THE

SHEEP CREEK WATER COMPANY
WELL DEVELOPMENT PROJECT

Prepared for:
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PROJECT DESCRIPTION

Introduction

The Sheep Creek Water Company (SCWC), is a Mutual Water company that provides water service to customers located within its service area, which includes a portion of the unincorporated community of Phelan. The SCWC provides this water service pursuant to the regulatory jurisdiction of the State Water Resources Control Board, Division of Drinking Water (DDW). SCWC has approximately 8,000 shares in the Company and about 1,170 active water service connections and a total of just under 1,400 potential connections. As a non-governmental entity SCWC is not subject to California Environmental Quality Act (CEQA) unless its actions involve governmental participation, financing, discretionary permitting or approval (Section 15002(c) of the State CEQA Guidelines). In this instance the DDW will serve as the CEQA Lead Agency for the development of a new well by SCWC

SCWC operates its mutual water system under the terms and conditions of a Water Supply Permit issued by the DDW. The proposed new water supply well will be pumped to supplement the Company's existing sources during this drought. Before the new well will be connected to the SCWC water supply system, it must obtain an amended permit from DDW to add new facilities to its system. As such, DDW must comply with CEQA and make a determination on the potential effects of permitting a new water supply and modified distribution facilities on the existing environment.

SCWC is proposing to drill a new well which serves as a new source of water to supplement the existing water production system that consists of the following facilities: Water Tunnel; Well #2A; Well #3A; Well #4A; Well #5; Well #8; and a backup connection to the Phelan Piñon Hills Community Services District. Over the past 10 years annual water production has averaged approximately 750 acre-feet per year. Assuming 1,400 water service connections, the average consumption is about 0.5 acre-foot per year per connection.

Project Location

The Project site is located within the unincorporated community of Phelan in the southeast quarter of Section 13, T4N, R7W, San Bernardino Base and Meridian. The nearest intersection to the proposed new well is Walnut Road and Monte Vista Road. This location can be found on the USGS Phelan 7.5 Minute Series topographic map. The regional location is shown on Figure 1 and the site location is shown on Figure 2. The Longitude/Latitude of the site is: Long 117°33.66846' West and Lat 34°25.702741' North.

Project Site

The proposed project site encompasses approximately 0.5 acre. This site is essentially flat and has been previously graded and does not contain native habitat. There are no existing structures on the site. The County of San Bernardino has designated the site for rural residential use and surrounding development consists of rural residences to the north, east and west. Land use to the west consists of open space and rural residences about one-quarter mile distant. Note that California Government Code Section 5309 exempts water supply facilities from local zoning restrictions. As such, water infrastructure facilities are considered compatible, if not essential, with all land uses.

Project Characteristics

Assuming the new well results in sufficient production, the SCWC proposes to acquire the site identified above. The project does not anticipate removal of any soil from the site. The site will be accessed from the existing graded dirt road, Walnut Road. The proposed groundwater production well will be drilled on the site to provide a supplemental water source for the Company's potable water supply. It will be drilled to approximately 1,500 feet deep using a reverse rotary drill unit. The objective is to have the new well pump at a rate of approximately 500 gallons per minute (gpm) from the Alto Subbasin of the Mojave River Basin. The new well will serve to provide the community with a supplemental, reliable source of drinking water. With the current drought situation that has been declared in the State of California, it will be a vital source of water to the community. The well will be equipped with an above ground pump motor on top of an approximate 10-foot x 10-foot concrete pad. This new pump will be enclosed with a masonry block building to minimize exterior noise levels at the nearest residences (about 200 feet from the well site). To minimize onsite water consumption no new landscaping will be installed at the site, which is consistent with the existing environmental setting at the project site.

SCWC also proposes to install about 0.5 mile of new pipeline to connect the new well to the existing water distribution system in Smoke Tree Road. The pipeline will range between 8 and 12 inches in diameter and will follow Walnut east to Monte Vista and then south on Monte Vista to where it will connect into the water line on Smoke Tree Road at its intersection with Smoke Tree Road.

Related to the proposed new well, SCWC has met with the Mojave Water Agency (MWA) to discuss the requirements of becoming a Stipulating Party to the Mojave River Adjudication. At the present time SCWC imports an average of 700-900 acre-feet of water into the Alto and Oeste Sub-basins. SCWC will pay the MWA the required replacement cost for the water produced, minus any credit received for water that is imported into these basins. This will include water produced by the new well.

Construction Scenario

The Project is expected to begin construction after approval of the project by the SCWC Boards. It is estimated that the project will be completed in approximately 3 to 4 months. Active drilling is anticipated to require about 6 to 8 weeks. The well building will be constructed after the well has been drilled. It is expected that construction of the well building will take approximately 2 months to complete. Installation of new pipelines will require about 2 weeks.

Operational Scenario

Operation of the well would be on an as needed basis in the future and would not require any shifts or employees as it will be monitored and controlled remotely. The new well would require up to 1.5 million KWH to operate per year. Chemicals used in the water production process will be chlorine (sodium hypochlorite) for disinfection.

This concludes the Project Description. If the new well is implemented by SCWC, the Project will be implemented as outlined above. The remainder of this Initial Study consists of the most recent CEQA Environmental Checklist Form and the facts and findings required to substantiate the conclusions presented. Based on the findings and conclusions presented in the remainder

of this Initial Study, SCWC has made a preliminary determination that a Mitigated Negative Declaration (MND) is the appropriate CEQA environmental determination for this Project. A final environmental determination will be made by the company following the close of a 30-day comment period. Any comments received on the Initial Study will be reviewed and considered by the SCWC when making its environmental determination for the Project. As the CEQA Lead Agency, the DDW (State Board) will make a final decision regarding the appropriate environmental determination for this Project according to CEQA and the State CEQA Guidelines.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|----------------------------|------------------------------------|--------------------------------------|
| X Aesthetics | Agriculture and Forestry Resources | X Air Quality |
| X Biological Resources | X Cultural Resources | X Geology / Soils |
| Greenhouse Gas Emissions | X Hazards & Hazardous Materials | X Hydrology & Water Quality |
| Land Use / Planning | Mineral Resources | X Noise |
| Population / Housing | Public Services | Recreation |
| X Transportation / Traffic | X Utilities / Service Systems | X Mandatory Findings of Significance |

Note that all potentially significant impacts can be reduced to a less than significant impact level with implementation of identified mitigation measures.

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

	The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION , including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Tom Dodson & Associates
Prepared by

November 2016
Date

Signature

Date

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X		

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project would not have a substantial adverse effect on a scenic vista. The project will not change land uses, or substantially alter existing scenic vistas in the project area or visual aspects of the area. The installation of a water production well involves ground disturbing activities for the construction of the well and the necessary pipeline for distribution of the water; however once drilled, most of the well facilities and pipeline will be below ground with the exception of an enclosure for the above ground pump motor. The San Gabriel Mountains lie to the south and provide the background scenic view to the south; to the east and west are the alluvial fans that extend from the San Gabriel Mountains to the Mojave River; to the north are the small mountains and mountain ranges that provide the background view on the north and west side of the Mojave River channel. The well head will be placed in a 10' x 10' structure with a height that is similar to the surrounding structures—though views in all directions from the project site consist of open space and residential and limited institutional and commercial development in the foreground and middle ground view. Construction activities will be temporary and localized. Operational activities and the new enclosure will cause minor changes in views from surrounding development, but will not obstruct scenic vistas and therefore the impact as such is considered less than significant. Additionally, the proposed pipeline will be installed within existing roadways, thus the impact to any scenic vistas would be less than significant. No mitigation is required.

- b. *No Impact* – The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway corridor. No scenic resources, such as historical buildings, trees, or rock outcropping, would be removed, altered, or obstructed as part of the proposed project. The project site is on developed/disturbed land, and the pipeline will be constructed within existing roadways, none of which have been designated as state scenic highways. No historic buildings are located within the area proposed for development as part of the proposed project. No rock outcroppings, trees, or other visual features would be impacted by the proposed project. Also with no important any scenic resources or visual qualities within the project footprint, the proposed project does not have a potential to substantially degrade the visual character or quality of the site or its surroundings. No impact can occur under this issue and no mitigation is required.

- c. *Less Than Significant Impact* – The proposed project would not substantially degrade the existing visual character or quality of the site and its surroundings. The construction of the well and supporting pipeline will alter the visual setting in the area immediately surrounding the well site, but the small 10' x 10' structure that will house the well and above ground pump motor will be consistent with the surrounding landscape. Additionally, the community of Phelan is slowly being developed with residential and commercial uses and the proposed development of a well for SCWC is considered to be consistent with the evolution in the area landscape. Based on these findings, the proposed project is not forecast to cause a substantial degradation of the area visual character or quality. No mitigation is required.
- d. *Less Than Significant With Mitigation Incorporated* – The construction activities are limited to daylight hours unless an emergency occurs, and the amount of security lighting needed during construction will be minimal. However, the surrounding land uses within the project footprint include Rural Living (RL), with residences directly adjacent to the project site. Lighting at the well site will be installed as needed for safety. Thus, the proposed project has a potential to create a new source of substantial lighting or glare during construction that could adversely affect nighttime views at the adjacent residences, and residences can be considered a light sensitive land use. There will be a new permanent light sources to support operations of the well for security purposes. Lighting will also be required during the 24-hour drilling phase of the well construction. This poses a potential to result in a substantial change to the area surrounding the project site. To protect nearby residences from direct light and glare from new lighting, the following mitigation measures will be implemented:

I-1 A facilities lighting plan shall be prepared and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall specifically indicate that the lighting doesn't exceed 1.0 lumen at the nearest residence to any lighting site within the project footprint. This plan shall be implemented by the SCWC to minimize light or glare intrusion onto adjacent properties.

With implementation of the above measure potential light and glare can be controlled to a less than significant impact level.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
<p>II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

SUBSTANTIATION

- a. *No Impact* – The proposed project would not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown in the map of the site from the State of California Department of Conservation: California Important Farmland Finder (Figure II-1). No agricultural land exists within the proposed project area and no agricultural land is proposed over the long-term according to the County's General Plan Land Use Map for the Phelan area. The proposed project area is located in a non-agricultural rural area that is already disturbed. The proposed project area is not within an area identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. No impacts are identified, and no mitigation is required.

<http://maps.conservation.ca.gov/ciff/ciff.html>

- b. *No Impact* – According to the County of San Bernardino General Plan, the proposed project would not conflict with existing zoning for agricultural use or a Williamson Act contract. The project areas are not zoned agricultural and none are located in a Williamson Act designated area. No impacts are identified, and no mitigation is required.

<http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

- c&d. *No Impact* – The project footprint is not located within forest land, timberland or timberland zoned Timberland Production. Therefore, implementation of the project will not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)). Also, implementation of the Project will not result in the loss of forest land or conversion of forest land to non-forest production use. No impacts are anticipated. No mitigation is required.
- e. *No Impact* – This project does not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Please reference Responses 2a-d, above. No impacts are anticipated. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X		
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?		X		
d) Expose sensitive receptors to substantial pollutant concentrations?		X		
e) Create objectionable odors affecting a substantial number of people?			X	

SUBSTANTIATION: An air quality study was compiled for this project titled “*Air Quality and GHG Impact Analyses Sheep Creek Water Company Project, Phelan, California*” prepared by Giroux & Associated dated November 6, 2016. The information provided below is abstracted from this study which is provided as Appendix 1 of this Initial Study.

Background

The air quality study summarizes the meteorology and climate factors that influence ambient (background) air quality in the Victor Valley region of the Mojave Desert Air Basin. Refer to Appendix 1 for the detailed discussion of these issues. It also provides to tables that summarize current state and federal air quality standards and health effects. These standards and health effects are provided below in Table III-1 and Table III-2, respectively. Baseline air quality for the Victor Valley has been compiled and is summarized as follows.

Monitoring of air quality in the MDAB is the responsibility of the Mojave Desert Air Quality Management District (MDAQMD) headquartered in Victorville, California. The closest monitoring station to the project site is in Phelan. That station, however, only monitors ozone. The nearest station that monitors the full spectrum of air pollutants is the Victorville Station at 14306 Park Avenue. Table III-3 summarizes the last five years of monitoring data from the available data at the Phelan and Victorville monitoring stations.

Table III-1

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹⁰	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹⁰	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (10/1/15)

Table III-1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (10/1/15)

**Table III-2
HEALTH EFFECTS OF MAJOR CRITERIA POLLUTANTS**

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> Motor vehicle exhaust. High temperature stationary combustion. Atmospheric reactions. 	<ul style="list-style-type: none"> Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> Contaminated soil. 	<ul style="list-style-type: none"> Impairment of blood function and nerve construction. Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	<ul style="list-style-type: none"> Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions. 	<ul style="list-style-type: none"> Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardio respiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> Fuel combustion in motor vehicles, equipment, and industrial sources. Residential and agricultural burning. Industrial processes. Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> Increases respiratory disease. Lung damage. Cancer and premature death. Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> Combustion of sulfur-containing fossil fuels. Smelting of sulfur-bearing metal ores. Industrial processes. 	<ul style="list-style-type: none"> Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Findings are summarized below:

1. Photochemical smog (ozone) levels frequently exceed standards. The 1-hour state standard was violated an average of six percent of all days in the last five years at the monitoring station closest to the project site and the 8-hour state standard was violated on average 16 percent per year. The Mojave Desert Air Basin does not generate enough ozone precursor emissions to substantially affect ozone levels. Attainment of ozone standards is most strongly linked to air quality improvements in upwind communities.
2. PM-10 levels have exceeded the state 24-hour standard on three measurement days within the last five years near Victorville. The three times less stringent federal 24 hour-standard not been exceeded during this period. No significant trend can be seen in regards to maximum 24-hour PM-10 concentrations over the most recent years.
3. PM-10, however, is affected by construction, by unpaved road travel, by open fires and/or by agricultural practices. These emissions can be controlled to some extent, and are, therefore, components in a respirable range (10-micron diameter) particulate matter (PM-10) attainment plan developed by the Mojave Desert AQMD. An attainment plan for PM-10 was adopted in July 1995, for designated federal PM-10 non-attainment areas in the MDAB. Any project-related PM-10 generation activities require an enhanced level of controls consistent with the control measures that are part of that plan.
4. A fraction of PM-10 is comprised of fine diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). Year 2012 showed the lowest maximum 24-hour concentration in the past five years. The 24-hour federal standard has not been exceeded in the recent past.
5. More localized pollutants such as carbon monoxide and nitrogen oxides, etc. are generally very low near the project site because background levels in the Mojave Desert area never exceed allowable levels except perhaps during rare wildfire events such as in 2010. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NO_x or CO without any threat of violating applicable AAQS.

The following thresholds of significance have been established for the MDAB:

The project proposes to install a variety of improvements to provide a backup water supply within the Sheep Creek Water Company service area. The project proposes the installation of a new well, well housing and new water conveyance pipeline. Potential air quality impacts to the immediate project vicinity would derive almost exclusively during construction of the proposed improvements.

The MDAQMD has adopted numerical emissions thresholds as indicators of potential significant impact even if the actual air quality increment cannot be directly quantified. The MDAQMD thresholds are as follows:

Carbon Monoxide (CO)	548 pounds/day,100 tons/year
Nitrogen Oxides (NO _x)	137 pounds/day,25 tons/year
Sulfur Oxides (SO _x)	137 pounds/day,25 tons/year
Reactive Organic Gases (ROG)	137 pounds/day,25 tons/year
Particulate Matter (PM-10)	82 pounds/day,15 tons/year
Particulate Matter (PM-2.5)	82 pounds/day,15 tons/year

**Table III-3
PROJECT AREA AIR QUALITY MONITORING SUMMARY 2010-2014
(Days Standards Were Exceeded and Maximum Observed Levels)**

Pollutant/Standard	2010	2011	2012	2013	2014
Ozone					
1-Hour > 0.09 ppm (S)	28	29	23	11	18
8-Hour > 0.07 ppm (S)	57	69	87	58	62
8- Hour > 0.075 ppm (F)	48	48	47	31	36
Max. 1-Hour Conc. (ppm)	0.137	0.124	0.119	0.113	0.137
Max. 8-Hour Conc. (ppm)	0.114	0.101	0.108	0.097	0.100
Carbon Monoxide					
1-Hour > 20. ppm (S)	0	0	0	0	0
1-Hour > 9. ppm (S, F)	0	0	0	0	0
Max 8-Hour Conc. (ppm)	5.2*	1.5	1.8	xx	xx
Nitrogen Dioxide					
1-Hour > 0.18 ppm (S)	0	0	0	0	0
Max 1-Hour Conc. (ppm)	0.137	0.075	0.056	0.065	0.067
Inhalable Particulates (PM-10)					
24-Hour > 50 µg/m ³ (S)	0/60	0/60	0/xx	2/xx	1/xx
24-Hour > 150 µg/m ³ (F)	0/60	0/60	0/xx	0/xx	0/xx
Max. 24-Hr. Conc. (µg/m ³)	40.	34.	40.	71.	xx
Fine Particulates (PM-2.5)					
24-Hour > 35 µg/m ³ (F)*	0/62	0/48	0/xx	0/xx	0/xx
Max. 24-Hr. Conc. (µg/m ³)	20.	16.	12.	13.	24.

xx data not available

*high wind/wildfire event

Source: Phelan: ozone

and Victorville Air Monitoring Station Data www.arb.ca.gov/adam/

Additional indicators of potential significant air quality impacts are defined in its CEQA Handbook (2007). The MDAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators relevant to this project are as follows:

- Generates total emissions (direct and indirect) in excess of the MDAQMD thresholds.
- Generate a violation of any ambient air quality standard when added to the local background
- Creates odors that could be considered a nuisance by any substantial number of people.
- Does not conform to applicable attainment or maintenance plans.
- Emits hazardous or toxic emissions that create an excess cancer risk of more than 10 in a million or a non-cancerous health index (HI) or more than 1.0.

Except in special circumstances, the CEQA Handbook notes that meeting the daily or annual emissions thresholds is normally sufficient to demonstrate a less-than-significant impact.

Analysis and Findings

- a. *Less Than Significant Impact* – The proposed project consists of installing a new water production well in the community of Phelan to enhance the SCWC’s ability to meet current water supply demands. This new well is not forecast to increase growth within the SCWC’s service area as adequate water has been available from other sources historically to support growth which has been relatively low over the past ten years within the . Infrastructure improvements such as proposed do not conflict with or obstruct the implementation of the applicable MDAB Air Quality Management Plan (AQMP). Based on the type of project and its less than significant air emissions, the proposed project will have a less than significant impact to the AQMP for the MDAB

- b-d. *Less Than Significant With Mitigation Incorporated* – Annualized construction activity emissions for the proposed project were calculated using the South Coast Air Quality Management District (SCAQMD) CalEEMod computer model for the indicated equipment fleet and time frame as authorized for CEQA use by the MDAQMD. CalEEMod was developed by the SCAQMD and provides a model to calculate construction emissions. It calculates both the daily maximum and annual emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions. The construction scenario modeled for the various activities that are planned for the proposed project are listed below.

Construction Activities: Drill Well and Construct Housing

Drill: 8 weeks

1 loader/backhoe, 1 drill rig, 1 forklift

Construct Pad and Housing: 2 months

1 forklift, 1 loader/backhoe, 1 pump, 1 welder, 1 mixer

Pipeline Installation (0.5 miles)

Trench and Excavate: 80 days

3 trenchers, 3 loader/backhoes, 1 generator set

Install Pipeline: 2 weeks

2 trenchers, 2 loader/backhoes, 1 forklift, 1 compactor

Emissions for each project component were calculated. As a worst case scenario, it was assumed that construction of all project activities would occur simultaneously. Therefore, the total reflects all project activities occurring in the same year (2017) as a worst case condition. Table III-4 provides maximum daily emissions as compared to the MDAQMD thresholds. Table III-5 presents annual construction emissions relative to their thresholds.

Well Operations

Operational air pollution emissions will be minimal. Electrical generation of power will be used for pumping. Electrical consumption has no single uniquely related air pollution emissions source because power is supplied to and drawn from a regional grid. Electrical power is generated regionally by a combination of non-combustion (nuclear, hydroelectric, solar, wind, geothermal, etc.) and fossil fuel combustion sources. There is no direct nexus between consumption and the type of power source or the air basin where the source is located. Operational air pollution emissions from electrical generation are therefore not attributable on a project-specific basis. Based on implementation of the following dust

control measures, the proposed project is not forecast to expose sensitive receptors to substantial pollutant concentrations

III-1 Fugitive Dust Control

The following measures shall be incorporated into project plans and specifications for implementation:

- *All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.*
- *The contractor shall ensure that all disturbed areas within the project are watered with complete coverage of disturbed areas at least two times a day, preferably in the mid-morning, afternoon, and after work is done for the day. Additional watering can be applied if fugitive dust is observed leaving the project site.*
- *The contractor shall ensure that traffic speeds on the project site are reduced to 10 miles per hour or less.*
- *Plans, specifications and contract documents shall direct that a sign must be posted on-site stating that construction workers shall not idle diesel engines in excess of five minutes.*
- *During grading activity, all construction equipment greater than 150 horsepower shall be California Air Resources Board (CARB) Tier 3 Certified.*
- *Only “Zero-Volatile Organic Compounds” paints (no more than 150 gram/liter of VOC) and/or High Pressure Low Volume (HPLV) applications consistent with existing MDAQMD rules and regulations shall be used when reservoirs are painted, if painted onsite.*
- *When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.*
- *All paved streets shall be swept at least once a day using MDAQMD certified street sweepers if visible soil materials are carried to adjacent streets.*
- *The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite.*
- *Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours.*
- *Any on-site stockpiles of debris, dirt or other dusty material shall be covered or watered three times daily.*

III-2 Exhaust Emissions Control

- *Utilize well-tuned off-road construction equipment.*
- *Establish a preference for contractors using Tier 3-rated or better heavy equipment.*
- *Enforce 5-minute idling limits for both on-road trucks and off-road equipment.*

- e. *Less Than Significant Impact* – Project operations (pumping and any treatment) are an essentially closed system with negligible odor potential. Chemicals used in the water production process will be chlorine (sodium hypochlorite) for disinfection which has no noticeable odor.

**Table III-4
DAILY EMISSIONS (lbs/day)**

Maximal Construction Emissions 2017	ROG	NOx	CO	SO₂	PM-10	PM-2.5
Well Installation	1.3	9.7	8.2	0.0	1.3	0.8
Pipeline Installation	1.6	13.0	11.2	0.0	1.3	1.0
Total	2.9	22.7	19.4	0.0	2.6	1.8
MDAQMD Thresholds	137	137	548	137	82	82
<i>Exceeds Thresholds?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

**Table III-5
ANNUAL EMISSIONS (tons/year)**

Maximal Construction Emissions	ROG	NOx	CO	SO₂	PM-10	PM-2.5
Well Installation	0.04	0.36	0.29	0.00	0.04	0.03
Pipeline Installation	0.01	0.06	0.05	0.00	0.01	0.01
Total	0.05	0.42	0.34	0.00	0.05	0.04
MDAQMD Thresholds	25	25	100	25	15	15
<i>Exceeds Thresholds?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Maximum project-related air pollution emissions were compared to daily and annual MDAQMD significance thresholds. Even if all activities occurred in a single calendar year and overlapped, maximum daily emissions are less than their daily CEQA thresholds.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

SUBSTANTIATION: The *“Biological Resources Assessment, Sheep Creek Water Company Well #5 Project, Big Bear City, County of San Bernardino, California”* (Appendix 2) prepared by Jericho Systems Inc. dated October 18, 2016 was utilized for the following analysis. A copy of this document is provided as Appendix 2 to this Initial Study. The following information is abstracted from Appendix 2:

The purpose of the BRA was to address potential effects of the proposed project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW, formerly California Department and Fish and Game) and/or the California Native Plant Society (CNPS).

The site was assessed for sensitive species known to occur locally. Although several sensitive species have been documented in the project vicinity, there are no State- and/or federally-listed threatened or endangered species documented within 5 miles of the project site. The project site is within the historic range of the Mohave ground squirrel (*Xerospermophilus mohavensis*), which is a State-listed threatened species. Additionally, burrowing owl (*Athene cunicularia*), which are a Species of Special Concern SSC are known to occur within the region. Therefore, the project site was assessed to determine if suitable habitat for either species is present within the project area.

Based on the literature review and personal observations made in the immediate vicinity, no State- and/or federally-listed threatened or endangered species are documented/or expected to occur within the survey area (project site). No other sensitive species were observed within the project area. Furthermore, no suitable habitat exists within the project area that would be considered suitable for MGS or BUOW. Therefore, no focused presence/absence surveys for either of these species are warranted or recommended.

- a. *Less Than Significant Impact* – Implementation of the Project does not have a potential for a significant adverse effect, either directly or through habitat modifications, on species identified as a candidate, sensitive, or special species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) (*formerly Department of Fish and Game*) or U.S. Fish and Wildlife Service (USFWS). The project area is not within the designated critical habitat of any species. The project area, as discussed in the abstract above, does lie within range of the Mohave ground squirrel (*Xerospermophilus mohavensis*) and the burrowing owl (*Athene cunicularia*). However, no suitable habitat occurs within the project area for any of the State and/or federally listed threatened or endangered species identified in the literature review and database search. Upon survey of the project footprint, the field biologist determined that, of the species listed as sensitive species that could occur in the area, none would be impacted by implementation of the proposed project. Therefore, no significant impacts under this issue are anticipated, and no mitigation is required.
- b. *Less Than Significant Impact* – Implementation of the proposed project will not have an adverse effect on any riparian habitat or sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS. The project site has been previously graded and does not contain native habitat. The surrounding area does contain some remnant Rabbitbrush scrub and Desert saltbush scrub community, consisting of low-growing perennial plants with a few taller shrubs and trees. Based on the field survey conducted by Jericho Systems and the information contained in Appendix 2, no significant impacts are anticipated under this issue, and no mitigation is required.
- c. *No Impact* – According to the data gathered by Jericho Systems in Appendix 2, no federally protected wetlands occur within the project footprint. Therefore, implementation of the proposed project will have no potential to impact any federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No mitigation is required.
- d. *Less Than Significant Impact With Mitigation Incorporated* – Based on the field survey of the project site, the Project will not substantially interfere with the movement of any native resident or migratory species or with established native or migratory wildlife corridors, or impede the use of native nursery sites. However, the State does protect all migratory and nesting native birds. Though no impacts to nesting or migratory birds have been identified in Appendix 2, the project area may include locations that function as nesting locations for native birds. To prevent interfering with native bird nesting, the following mitigation measure shall be implemented.

IV-1 The State of California prohibits the “take” of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should

be conducted outside of the the State identified nesting season (Raptor nesting season is February 15 through July 31; and migratory bird nesting season is March 15 through September 1). Alternatively, the site shall be evaluated by a qualified biologist prior to the initiation of ground disturbace to determine the presence or absence of nesting birds. Acitve bird nests MUST be avoided during the nesting season. If an active nest is located in the project construction area it will be flagged and a 300-foot avoidance buffer placed around it. No activity shall occur within the 300-foot buffer until the young have fledged the nest.

Thus, with implementation of the above measure, any effects on wildlife movement or the use of wildlife nursery sites can be reduced to a less than significant impact.

- e. *No Impact* – Based on the field survey, the project site does not contain any biological resources, such as trees, that might be protected by local policies or ordinances.
- f. *No impact* – The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. There are no adopted plans for the project area, the proposed project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?		X		
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d) Disturb any human remains, including those interred outside of formal cemeteries?			X	
e) Cause a substantial adverse change in the significance of a tribal cultural resource pursuant to AB 52?				X

SUBSTANTIATION:

a&b. *Less Than Significant Impact With Mitigation Incorporated* – CEQA establishes that "a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment" (PRC §21084.1). "Substantial adverse change," according to PRC §5020.1(q), "means demolition, destruction, relocation, or alteration such that the significance of a historical resource would be impaired."

The project site has been cleared and compacted by past human activities. Thus, no potential for historical or archaeological sites with any integrity can exist on this property.

In light of this information and pursuant to PRC §21084.1, the following conclusions have been reached for the Project:

- No historical or archaeological resources within or adjacent to the Project area have any potential to be disturbed as none exist on the ground surface within the proposed area in which the facilities will be constructed and developed. Thus, the Project as it is currently proposed will not cause a substantial adverse change to any known historical resources or archaeological resources.

However, if buried cultural materials are discovered during any site preparation activities associated with the Project, the following mitigation measure shall be implemented:

V-1 *Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the District onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate*

mitigation measures within the guidelines of the California Environmental Quality Act.

With implementation of the above contingency mitigation incorporation, potential for impact to cultural resources will be reduced to a less than significant level. No additional mitigation is required.

- c. *Less Than Significant Impact With Mitigation Incorporated* – The potential for discovering paleontological resources during development of the Project is considered highly unlikely. No unique geologic features are known or suspected to occur on or beneath the sites. These resources are located beneath the surface and can only be discovered as a result of ground disturbance activities; therefore, the following contingency mitigation measure shall be implemented:

V-2 Should any paleontologic resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the District onsite inspector. The paleontological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

With incorporation of this contingency mitigation, the potential for impact to paleontological resources will be reduced to a less than significant level. No additional mitigation is required.

- d. *Less Than Significant Impact* – As noted in the discussion above, No available information suggests that human remains may occur within the APE and the potential for such an occurrence is considered very low. State and local laws (Section 7050.5 of the Health and Safety Code) require that local law enforcement agencies be notified local Police Department, County Sheriff and Coroner's Office if human remains are encountered. Compliance with these laws is considered adequate mitigation for potential impacts and no further mitigation is required.
- e. *No Impact* – The SCWC is not a governmental agency and it does not have a standard requirement to initiate an AB 52 consult. The project site is located within a rural residential portion of the community of Phelan and it has been previously cleared, grubbed and graded. The potential for tribal cultural resources to occur at this location is considered to be negligible.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
<ul style="list-style-type: none"> Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. 				X
<ul style="list-style-type: none"> Strong seismic ground shaking? 			X	
<ul style="list-style-type: none"> Seismic-related ground failure, including liquefaction? 			X	
<ul style="list-style-type: none"> Landslides? 				X
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X

SUBSTANTIATION

a. Ground Rupture

No Impact – According to the Regulatory Map obtained from the California Department of Conservation showing Alquist-Priolo Earthquake Fault Zones and other seismic hazards (Figure VI-1), the project footprint and general area do not have any known faults, active or inactive. Therefore, no potential exists for the proposed project to experience any fault rupture along a delineated active fault.

Strong Seismic Ground Shaking

Less Than Significant Impact – The proposed project site, as with most of southern California, is in a seismically active area and will most likely be subject to substantial groundshaking during the life of the project. Due to the proximity of the active San Andreas Fault, about ten miles to the south, and the active Helendale Fault, about twenty-three miles to the northeast, the project site and area can be exposed to significant ground shaking during major earthquakes on either of these regional faults. Wells and underground pipelines are not typically susceptible to severe damage from ground shaking. Many such facilities exist within areas susceptible to strong ground shaking effects. However, because there is a potential for the proposed well development to be subject to relatively strong ground motion, any structures associated with the development of the well will be designed to meet seismic specifications of the current Uniform Building Code. No significant impacts are forecast to occur.

Seismic-related Ground Failure Including Liquefaction

Less Than Significant Impact – The project footprint is located on a consolidated alluvial fan in the rural flatlands of north Phelan. According to the San Bernardino County General Plan, General Land Use Plan with Geologic Overlays (Figure VI-2), the project footprint does not contain land with any liquefaction susceptibility.

Pipelines and wells are not generally susceptible to seismic-related ground failure. Proper trench bedding and soil preparation at the reservoir site and within the pipeline alignments are considered adequate measures to reduce the remote potential for ground failure at the proposed facilities to a less than significant level. No mitigation is required.

Landslides

No Impact – The Project area is relatively flat, sloping slightly from north to south. No hills or other significant topographic features exist on or near the project sites. No potential events can be identified that would result in adverse affects from landslides or that would cause landslides that could expose people or structures to such an event as a result of project implementation. No impacts are anticipated and no mitigation is required.

- b. *Less Than Significant With Mitigation Incorporated* – During construction, the project sites have potential for soil erosion. Due to the disturbance associated with trenching the pipeline alignment within both dirt and paved roadways, as well as site clearing and grading where the well will be developed, there is a potential for soil erosion. The project may result in exposing some soil to erosion during site grading activities before the well is drilled. The proposed project will be required to meet NPDES requirements. These will be met by requiring the construction contractor to use BMPs to control potential erosion and drainage off-site. Additionally, the mitigation measures identified below will be implemented and therefore, the potential for substantial soil erosion or loss can be controlled to a less than significant impact level. Based on the mitigation listed below, best management practices (BMPs) will be employed during construction to minimize the potential for soil erosion impacts.

VI-1 *Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of the material. If covering is not feasible, then measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup.*

VI-2 *Excavated areas shall be properly backfilled and compacted. Paved areas disturbed by this project will be repaved in such a manner that roadways and*

other disturbed areas are returned to as near the pre-project condition as is feasible.

VI-3 ***All exposed, disturbed soil (trenches, stored backfill, etc.) will be sprayed with water or soil binders twice a day or more frequently if fugitive dust is observed migrating from the site within which the water facilities are being installed.***

VI-4 ***The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.***

The following mitigation measure will be implemented to ensure the discharge of surface runoff from the sites does not result in significant soil erosion or loss of topsoil.

VI-5 ***The SCWC shall identify any additional BMPs to ensure that the discharge of surface water does not cause erosion downstream of the discharge point. This shall be accomplished by reducing the energy of any site discharge through an artificial energy dissipater or equivalent device. If any substantial erosion or sedimentation occurs, any erosion or sedimentation damage shall be restored to pre-discharge conditions.***

Implementation of the above measures in conjunction with mitigation measures identified in the Hydrology/Water Quality Section will adequately mitigate potential impacts associated with the water-related erosion of soil.

- c. ***No Impact*** – The coarse alluvial soils located at the project sites exhibit stability. Based on a review of the United States Department of Agriculture Natural Resource Conservation Service Web Soil Survey of the project footprint, the soil underlying the project area is Cajon sand, 2 to 9 percent slopes (Appendix 3). Regarding any potential to induce landslides, lateral spreading, subsidence, liquefaction or collapse, the existing environmental setting does not contribute to any of these geological hazards. The only required mitigation consists of measures to control wind erosion and water erosion. BMPs have been identified to in the preceding discussion to manage the wind and water erosion issues. Otherwise, the proposed project does not pose any new unstable geological hazards. No additional mitigation measures are required.
- d. ***No Impact*** – The project sites are underlain by Cajon sand, 2 to 9 percent slopes (Appendix 3), which has no potential to expand as defined in Table 18-1 B of the Uniform Building code. Additionally, this type of soil has a low shrink-swell potential. Therefore, the development of the project has no potential to be exposed to substantial risks to life or property due to the presence of expansive soils. No mitigation is required.
- e. ***No impact*** – The proposed project does not involve septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. The proposed project will develop a new well, and it does not require or impact septic systems.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

SUBSTANTIATION: A greenhouse gas study was compiled for this project titled *“Air Quality and GHG Impact Analyses Sheep Creek Water Company Project, Phelan, California”* prepared by Giroux & Associated dated November 6, 2016. The information provided below is abstracted from this study which is provided as Appendix 1 of this Initial Study.

Background

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.

- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, over the next 13 years (by 2020).
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

Greenhouse Gas Emissions Significance Thresholds

In response to the requirements of SB97, the state Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate”. The most common practice for infrastructure/combustion GHG emissions quantification is to use a computer model such as CalEEMod.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

The California Air Resources Board (ARB) has developed an interim significance guideline for industrial projects or 7,000 metric tons of CO₂-equivalent annual emissions. Water treatment is not strictly an “industrial” process. However, in the absence of any adopted significance thresholds, this screening level will be used in the following analysis.

- a. *Less Than Significant Impact.* GHG emissions would be potentially significant if the project would:
- Generate greenhouse gas emissions either directly or indirectly, that may have a significant impact on the environment.
 - Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Construction Activity GHG Emissions

During project construction, the CalEEMod2013.2.2 computer model predicts that the indicated activities could generate the following annual emissions shown in Table VII-1.

Table VII-1

Maximal Annual Construction Emissions	MT CO₂e
2017	
Drill Well	52.4
Pipeline Install	6.5
Total	58.9

Equipment exhaust also contains small amounts of methane and nitric oxides which are also GHGs. Non-CO₂ GHG emissions represent approximately a one percent increase in CO₂-equivalent emissions from diesel equipment exhaust. For screening purposes, the temporary construction activity GHG emissions were compared to the chronic operational emissions in the ARB's interim thresholds. The screening level operational threshold is 7,000 metric tons (MT) of CO₂-equivalent (CO₂(e)) per year. Worst year construction activities generating a total of 59 MT are well below this threshold.

Project Operational GHG Emissions

Except for minor system maintenance, the only operational source of GHG emissions would be associated with pumping operations. Electricity is generated from a variety of resources at various locations in the western United States. The California Climate Action Registry Protocol (2009) states that each megawatt-hour (MW-HR) of electricity consumption in California results in the release of 0.331 MT of CO₂(e).

The new well is estimated to require up to 1.5 million KWH to operate per year. Assuming a 100% load factor, this would translate to an annual average of 1,500 MW per year in increased project electrical consumption. Electricity use will result in GHG emissions from the fossil fueled fraction of Southern California's electrical resource calculated as follows:

$$1,500 \text{ MWH/year} \times 0.331 \text{ MT/MWH} = 496.5 \text{ MT/year}$$

The screening threshold of 7,000 MT of CO₂(e) GHG emissions will not be exceeded. Both the construction and operations GHG emissions are far below the 7,000 MT CO₂(e) advisory threshold for impact significance.

- b. *Less Than Significant Impact* – As demonstrated in the preceding analysis, the proposed project will not exceed the advisory threshold established for significant GHG emissions. SCWC does not have an applicable plan or policy related to reduction of GHG emissions. Once constructed, the proposed new well facility will be used when other sources of water may be unavailable. It is not anticipated that the annual volume of groundwater produced historically, about 750 acre-feet, will result in an overall increase in GHG generated by electricity consumed by SCWC. No substantial conflict with GHG plans, policies or regulations has been identified for the proposed project.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?			X	
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

SUBSTANTIATION

- a. *Less Than Significant Impact* – The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. However, operation of the proposed well would store chemicals, mainly chlorine (sodium hypochlorite), required for disinfection. Mishandling hazardous materials, such as improper storage or disposal, could potentially expose the public or the environment to hazardous materials. However, compliance with applicable federal, state, and local laws would minimize the potential

risks associated with the handling of hazardous materials and foreseeable accidents. Therefore, potential impacts to the public or the environment through accidental release due to the routine transport, use, or disposal of hazardous materials would be less than significant. SCWC has standard operational procedures for safe transport and use of its operational and maintenance materials. No additional measures are necessary to ensure the impact of managing this chemical result in a less than significant impact on the environment.

- b. *Less Than Significant With Mitigation Incorporated* – The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

During construction or maintenance activities in support of the proposed project, fuels, oils, solvents, and other petroleum materials classified as "hazardous" will be used to support these operations. Mitigation measures designed to reduce, control or remediate potential accidental releases must be implemented to prevent the creation of new contaminated areas that may require remediation in the future and to minimize exposure of humans to public health risks from accidental releases. The following mitigation measure will be incorporated into the Storm Water Pollution Prevention Plan (SWPPP) prepared for the project, which would reduce such accidental spill hazards to a less than significant level.

VIII-1 All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility.

By implementing this measure, potentially substantial adverse environmental impacts from accidental releases associated with installation of the proposed well can be reduced to a less than significant level.

- c. *Less Than Significant Impact* – The proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The nearest school—Phelan Elementary School—is approximately one mile away from the proposed project site and footprint of the proposed pipeline. As such, the proposed project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste during construction or operation in a quantity that would pose any danger to people adjacent to, or in the general vicinity of, the project site. Therefore, the impacts of the proposed project to this issue area would be considered less than significant.
- d. *Less Than Significant Impact* – The proposed project would not be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would not create a significant hazard to the public or the environment. None of the proposed actions would be near to or impact a site known to have hazardous materials or a site under remediation for hazardous materials or associated issues. A review of the California State Water Resources Control Board GeoTracker database indicates that no indicates that no open hazardous materials clean-up sites are located within a 2,000 foot radius of the proposed well development site (Figure VIII-1). Therefore, the proposed project is not forecast to result in a significant hazard to the public or the environment associated with this issue area. No mitigation is required.
- e. *No Impact* – According to a review of Google Maps (October 19, 2016), the closest public airport to the project site is the Southern California Logistics Airport, which is located approximately 12 miles to the northeast of the Project site. Based on this information, implementation of the Project will not

result in a safety hazard for people residing or working in the project area. No impacts are anticipated and no mitigation is required.

- f. *Less Than Significant Impact* – According to a review of Google Maps (October 19, 2016), the El Gray Butte Field, Krey Field, and Brian Ranch Airports are all located between 7 and 10 miles from the project area. Due to the distance from these private airports (between 7 and 10 miles) and the lack of any habitable structures on the project sites, implementation of the Project will not result in an exposure to a safety hazard for the people working in the project area.
- g. *Less Than Significant Impact* – The proposed well will be confined to the project site, and is not anticipated to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. However, the well will require about 0.5 miles of pipeline within adjacent roadways in order to connect the new well to SCWC’s existing water pipelines. Control of access during construction will ensure emergency access to the site and project area during construction. No known emergency response or evacuation plans or routes are known to exist in the vicinity of the Project and no such plans will be affected by this Project. Any impacts under this issue are considered less than significant. No mitigation is required.
- h. *No Impact* – The proposed project is located in a wildland fire hazard area, but according to Section 8 – Safety of the Phelan/Piñon Hills Community Plan (p.54), fire hazard severity is very high only in limited areas, south of Highway 138. The fire threat throughout most of the community plan area is considered moderate. The proposed well development and pipeline alignment would not expose people or structures to a significant risk of loss, injury or death involving wildland fires as they are not located in the vicinity of the high wildland fire hazard area. The project site is north of Highway 138 and is in an area without sufficient fuel load to pose a wildland fire hazard. No impacts are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?		X		
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?		X		
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation onsite or offsite?		X		
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite?		X		
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?		X		
f) Otherwise substantially degrade water quality?		X		
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

SUBSTANTIATION

a&f. *Less Than Significant With Mitigation Incorporated* – Installation of the proposed well includes activities that have a potential to violate water quality standards or waste discharge requirements due to direct discharge of water brought to the surface during well testing. Prior to pumping large quantities of water from the proposed municipal-supply water well, SCWC will need to test the quality of the water to verify that it does not contain contaminants that would exceed standard water quality objectives for this portion (Alto Subbasin) of the Mojave River Basin. The Lahontan Regional Water Quality Control Board has jurisdiction over the groundwater quality and surface water discharges for the proposed well. The discharge of groundwater generated from well drilling and development activities is covered by a General Permit within the Regional Board's jurisdiction. This General Permit establishes specific performance requirements for discharges from well activities and the proposed project must comply with these requirements. Before discharge from the well can occur, sampling must be completed to ensure that maximum contaminant levels (MCLs) are not exceeded in the groundwater brought to the surface and discharged. If water quality is degraded it must be blended to a level below MCLs or any specific pollutant exceeding MCLs must be treated prior to discharge to meet the MCL requirements for that pollutant. The following mitigation measure ensures that no significantly degraded groundwater (above MCLs) will be discharged during well testing:

IX-1 SCWC shall test the groundwater produced from the well prior to discharge. Prior to or during discharge any contaminants shall be blended below the pertinent MCL or treated prior to discharge, including sediment or other material.

The proposed project may result in some soil erosion during excavating and construction activities. Due to the disturbed nature of the well development site, and the relatively flat topography of the project footprint, it is concluded that the potential for this project to cause substantial soil erosion, and subsequent water quality impacts, is low. The proposed project will be required to meet NPDES requirements. SCWC must file a Notice of Intent (NOI) with the State Water Resources Control Board and obtain a general construction National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit prior to the start of construction. Obtaining coverage under the General Construction NPDES permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that must be implemented during construction. Compliance with the terms and conditions of the NPDES and the SWPPP is mandatory and is judged adequate mitigation by the regulatory agencies for potential impacts to stormwater during construction activities. Implementation of the following mitigation measure, as well as mitigation measures VI-5, VIII-1 and XI-4 (below) is also considered adequate to reduce potential impacts to stormwater runoff to a less than significant level.

IX-2 The District shall require that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:

- ***The use of silt fences;***
- ***The use of temporary stormwater desilting or retention basins;***

- ***The use of water bars to reduce the velocity of stormwater runoff;***
- ***The use of wheel washers on construction equipment leaving the site;***
- ***The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;***
- ***The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and***
- ***Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.***

- b. *Less Than Significant With Mitigation Incorporated* – The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a substantial lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted). The proposed well will extract groundwater from the Upper Mojave River Valley Groundwater Basin. The proposed depth of water production from this well is approximately 1,500 feet below the ground surface, or as directed by the hydrogeologist. This well is not designed to interfere with any private wells located within the same aquifer. However, since pumping tests will not be conducted until the proposed well is completed, the following mitigation measure shall be implemented by the District to ensure that other wells within this local aquifer do not incur a significant adverse impact from pumping the proposed well.

IX-3 SCWC shall conduct a pump test of the new well and determine whether any other wells are located within the cone of depression once the well reaches equilibrium. If any private wells are adversely impacted by future groundwater extractions from the proposed well, SCWC shall offset this impact through provision of water service; or adjusting the flow rates or hours of operation to mitigate adverse impacts.

With implementation of the above mitigation measure, the impacts to this issue would be reduced to less than significant. No additional mitigation is required.

- c-e. *Less Than Significant With Mitigation Incorporated* – The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite or exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

The project site is not located adjacent to any existing drainage channels, and any discharge offsite would be required to meet NPDES water quality requirements. The proposed well site is already disturbed and would have no potential to interfere with the discharge of stormwater over the long-term.

Counties require implementation of a set of BMPs to control discharges that surface runoff with pollutants could cause that may cause a significant adverse impact to surface water quality. Stormwater pollution prevention BMPs will be incorporated to control pollution from construction activities in the vicinity of the project site. These measures, such as berms, coil rolls, silt fencing, detention basins, etc., are mandatory, as are the measures for ongoing non-point source pollution controls implemented by the local jurisdictions once the project is completed. The mandatory BMPs applied in conjunction with Mitigation Measures VI-5 and VIII-1, IX-2 in conjunction with measure IX-4 below, are deemed sufficient to reduce potential surface water quality impacts to a

less than significant level. This is because the stormwater discharge will be treated to the point that the discharge will meet requirements for stormwater runoff from construction sites. No additional mitigation is required.

IX-4 SCWC and construction contractor shall select best management practices applicable to the project site and activities on the site to achieve a reduction in pollutants to the maximum extent practicable (including but not limited the development and implementation of a SWPPP), both during and following development of the proposed municipal-supply water well and associated pipeline/facilities, and to control urban runoff after the project is constructed and the well (if approved for operation post well testing) is in operation.

- g. *No Impact* – The Project is not located within a 100-year floodplain and does not propose any new housing or occupiable structures. According to FIRM Map 06071C6450H, the project area is located in a flood Zone X, defined as “Areas of 0.2% annual chance flood; areas of 1% annual chance flood with depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood. Thus, implementation of the Project will not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. No impacts are identified. No mitigation is required.
- h. *No Impact* – See response IX.g. above. The project sites are not located within a 100-year flood hazard area and any structures onsite will not alter or redirect any future flood flows on the project site. No impact can occur and no mitigation is required.
- i. *No Impact* – There are no upstream sources of flooding from any source that could expose people or structures on any project site to significant risk of loss, injury, or death. No impact can occur, and no mitigation is required.
- j. *No Impact* – There is no source of upstream surface runoff or flows that could inundate the sites, including seiche, tsunami or mudflow. No hills exist around or near the site that could result in the generation of substantial mudflow. No impact from such hazards can be identified and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

SUBSTANTIATION

- a. *No Impact* – According to the San Bernardino County General Plan Land Use Services Zoning Look Up interactive website (accessed October 20, 2016), the Land Use designations within and surrounding the project footprint range from Rural Living (RL). The proposed project site is located on a property that SCWC is in the process of acquiring, and the new well will connect to SCWC’s existing water system at Smoke Tree Road through approximately 0.5 miles of pipeline. connecting The project does not involve construction of new structures that would cause any physical divisions of communities. Since the proposed project occurs within and supports existing land use designations, no potential exists for the proposed project to physically divide an existing community. No impact will result and no mitigation is required.
- b. *Less Than Significant Impact* – Please reference discussion X.a. above. Implementation will not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. There is no specific plan or local coastal program that would apply to the Project site. No impacts are anticipated. No mitigation is required.
- c. *No Impact* – Please reference the discussion in IV, Biological Resources, above. There are no habitat or natural community conservation plans that apply to the project area. Therefore, no potential exist for the proposed Project to conflict with such plans.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			X	
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			X	

SUBSTANTIATION

- a. *Less Than Significant Impact* – Implementation of the Project will not result in the loss of availability of any known mineral resources that would be of value to the region and the residents of the state. According to the Geologic Map of the San Bernardino Quadrangle from the California Department of Conservation (<http://www.quake.ca.gov/gmaps/RGM/sanbernardino/sanbernardino.html>), the Project sites are located on alluvial soils. Alluvial soils are not a unique soil classification in the Project vicinity, as well as in southern California. In addition, neither the Project site nor surrounding vicinity have been mined in the past. If mineral resources were present on the Project site, then there would have been historic operations on the Project site to commercially extract these resources. Based on this information, any impacts to mineral resources from implementing the Project will be considered less than significant. No mitigation is required.

- b. *Less Than Significant Impact* – Please reference response XI.a. above. While the General Plan does contain Goals and Policies that related to mineral resources (Goal CO7, Policies CO7.1 through CO7.8, pp. V-32 and V-33 of the San Bernardino County General Plan): <http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGPtext20130718.pdf>, the Project site has not been historically mined for important mineral resources. No specific plan or other land use plan is in place that would delineate important mineral resources on the Project site. Any impacts are considered less than significant and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		X		
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?		X		
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

SUBSTANTIATION

Background

Noise is generally described as unwanted sound. If accepted as a production well, the proposed well will be outfitted with an above ground pump motor on top of an approximate 10-foot x 10-foot concrete pad. This new pump will be enclosed with a masonry block building to minimize exterior noise levels at the nearest residences (about 200 feet from the well site). The well will be developed at the site on Walnut Road in Phelan, which is surrounded by mainly rural living residential uses. The area immediately surrounding the project is sparsely populated.

The unit of sound pressure ratio to the faintest sound detectable to a person with normal hearing is called a decibel (dB). Sound or noise can vary in intensity by over one million times within the range of human hearing. A logarithmic loudness scale, similar to the Richter scale for earthquake magnitude, is therefore used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all sound frequencies within the entire spectrum. Noise levels at maximum human sensitivity from around 500 to 2,000 cycles per second are factored more heavily into sound descriptions in a process called "A-weighting," written as "dBA."

Leq is a time-averaged sound level; a single-number value that expresses the time-varying sound level for the specified period as though it were a constant sound level with the same total sound energy as the time-varying level. Its unit is the decibel (dB). The most common averaging period for Leq is hourly.

Because community receptors are more sensitive to unwanted noise intrusion during more sensitive evening and nighttime hours, state law requires that an artificial dBA increment be added to quiet time noise levels. The State of California has established guidelines for acceptable community noise levels that are based on the Community Noise Equivalent Level (CNEL) rating scale (a 24-hour integrated noise measurement scale). The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," and "clearly unacceptable" noise levels for various land use types. The State Guidelines, Land Use Compatibility for Community Noise Exposure, single-family homes are "normally acceptable" in exterior noise environments up to 60 dB CNEL and "conditionally acceptable" up to 70 dB CNEL based on this scale. Multiple family residential uses are "normally acceptable" up to 65 dB CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries and churches are "normally acceptable" up to 70 dB CNEL, as are office buildings and business, commercial and professional uses with some structural noise attenuation.

- a. *Less Than Significant With Mitigation Incorporated* – Implementation of the proposed project will generate noise. Generally, well drilling equipment can generate noise levels of about 70 to 90 dBA at a distance of 50 feet from the equipment. Drilling of the 36-inch minimum diameter surface casing/sanitary seal borehole to 50 feet and drilling, by reverse circulation methods, a 17.5-inch minimum diameter pilot borehole from 50 ft to 400 ft bgs will occur over a 24-hour period until the well is completed to the design depth of about 1,500 ft bgs. Stationary source noise diminishes at a rate of about 6 dB for each doubling of the distance from the source. This means that periodic construction noise levels at the nearest receptor can be about 65-80 dBA on the exterior of the nearest receptor. The well drilling will likely exceed the County's noise standard of 65 dBA at the exterior of the nearest receptors, which consists of some existing development near that will be temporarily impacted by construction noise, which consists of rural residential uses. This increase in noise levels will be short term (about 12 days). The increased noise levels will not be severe enough to pose a health or hearing hazard, but could be considered a short-term nuisance. Once the well becomes operational, the above ground pump motor will generate noise, however this noise can be mitigated, as outlined in the mitigation measure below—by constructing a masonry block building to reduce operational noise levels to a less than significant impact.

Additionally, to reduce potential short-term effects of noise and long-term noise effects from the well pump to the greatest extent feasible, the mitigation measures presented below will be implemented—which include constructing temporary noise barrier walls and equipment to meet specified noise level limits during construction activities.

XII-1 SCWC will require the implementation of adequate measures to reduce noise levels to the greatest extent feasible or below 65 dBA, including portable noise barriers or scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.

XII-2 SCWC will require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by applicant personnel during construction activities.

XII-3 SCWC will establish a noise complaint/response program and will respond to any noise complaints received for this project by measuring noise levels at the affected receptor. If the noise level exceeds an Ldn of 65 dBA exterior or an Ldn of 45 dBA interior at the receptor, the applicant will implement adequate measures to reduce noise levels to the greatest extent feasible, including

portable noise barriers or scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.

XII-4 All construction activities other than well drilling shall be restricted to daylight hours, unless an emergency exists.

XII-5 SCWC will require that well pump noise levels to be at or below 50 dB(A) at the nearest sensitive noise receptor. This can be accomplished by installing surface well housing, which can be housed in a block masonry structure that attenuates noise to meet this performance standard.

XII-6 Upon request from adjacent residents, SCWC shall provide the option of relocating adjacent residents for the duration of active 24-hour drilling activity.

- b. *Less Than Significant With Mitigation Incorporated* – Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by vibration of room surfaces is called structure borne noises. Sources of groundborne vibrations include natural phenomena (e.g. earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g. explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous or transient. Vibration is often described in units of velocity (inches per second), and discussed in decibel (dB) units in order to compress the range of numbers required to describe vibration. Vibration impacts related to human development are generally associated with activities such as train operations, construction, and heavy truck movements.

The background vibration-velocity level in residential areas is generally 50 VdB; Groundborne vibration is normally perceptible to humans at approximately 65 VdB, while 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible. Construction activity can result in varying degrees of groundborne vibration, and can occur as a result of well drilling activities. While no enforceable regulations for vibration exist within the County of San Bernardino, the Federal Transit Association (FTA) guidelines identify a level of 80 VdB for sensitive land uses. This threshold provides a basis for determining the relative significance of potential Project related vibration impacts.

In the short term, pipeline alignment and well drilling construction activities have the some potential to create some vibration to the nearest sensitive receptors at some sites within the project footprint. However, any short-term impacts to the nearest sensitive receptors would be considered less than significant through implementing the following mitigation measure:

XII-7 During future construction activities with heavy equipment within 300 feet of occupied residences, vibration field tests should be conducted at the nearest occupied residences. To the extent feasible, if vibrations exceed 72 VdB, the construction activities shall be revised to reduce vibration below this threshold.

- c. *Less Than Significant Impact With Mitigation Incorporated* – This project includes the installation of an above ground pump motor at the proposed well development site. As previously stated, once the well becomes operational, the above ground pump motor will generate noise; however, this noise can be mitigated—as outlined in the mitigation measure XII-5—by constructing a block masonry housing unity to reduce operational noise levels to a less than significant impact. The noise generated by the operation of the proposed well would not result in noise levels that exceed the standards deemed acceptable by the County of San Bernardino. Implementation of mitigation measure XII-5 is considered adequate to reduce the level of impact to less than significant.
- d. *Less Than Significant Impact With Mitigation Incorporated* – The proposed project will involve construction operations that have the potential to cause short-term significant noise impacts. In the

short term, well drilling, pipeline trenching, construction, development and testing activities will result in noise generated by excavators, drilling rig/drilling equipment (mast and draw-works, air compressors, drilling fluid pumps, drill pipe, etc), trenchers, and other noise making equipment required to complete well construction. Noise generated from a drill rig will reach approximately 80 dBA at a receptor located at a distance of 50 feet. As outlined in item (a) this project will have a temporary impact on ambient noise levels during construction and operation. The mitigation measures set forth in that section are considered adequate to reduce the level of impact to less than significant.

- e. *No Impact* – The proposed project facilities are not located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. According to a review of Google Maps (October 19, 2016), , the closest public airport to the project site is the Southern California Logistics Airport, which is located approximately 12 miles to the northeast of the Project site. Based on this information, the Project will have no potential to expose people residing or working in the project area to excessive noise levels generated by nearby aircraft or airport operations. No impacts are anticipated and no mitigation is required.

- f. *No Impact* – According to a review of Google Maps (October 19, 2016), the El Gray Butte Field, Krey Field, and Brian Ranch Airports are all located between 7 and 10 miles from the project area. Due to the distance from these private airports (between 7 and 10 miles) there is no potential for overflights in the general project vicinity, and the proposed well development and pipeline alignment will not contain any habitable structures, and thus are not considered sensitive to such noise. No impacts are anticipated. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

SUBSTANTIATION

- a. *Less Than Significant Impact* – Implementation of the Project will not induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). This project proposes to develop a new well in the Phelan community, which is necessary to provide water to existing water connections, as well as to any inactive connections within the SCWC service area. Due to the serious drought within the community and throughout California, the development of a new well will be important to provide water to the existing population within Phelan and any minor projected population growth. The Project itself will not directly induce population growth as it does not propose any housing, and any indirect impacts of increasing the amount of water available within the SCWC service area is considered less than significant. No mitigation is required.
- b. *No Impact* – Implementation of the Project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. There is no housing located within the project footprint. Therefore, there will be no need to construct replacement housing. No impacts are anticipated and no mitigation is required.
- c. *No Impact* – Please reference Response XIII.b. above. There is no existing housing located within the project footprint. Therefore, no people will be displaced that would result in a need to construct replacement housing. No impacts are anticipated and no mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XIV. PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?			X	
b) Police protection?			X	
c) Schools?				X
d) Recreation/Parks?				X
e) Other public facilities?				X

SUBSTANTIATION

- a. *Less Than Significant Impact* – The nearest fire station serving the project is approximately 3 miles away from the proposed project site; San Bernardino County Fire Station #10 is located at 9625 Beekley Rd, Phelan, CA 92371. The San Bernardino County Fire Department (SBCFD) provides fire protection and emergency medical services for the community of Phelan. The project will not include the use or storage of highly flammable materials. The proposed Project will develop a well for SCWC and subsequent pipelines to connect to the existing SCWC system. The proposed structure—the masonry building enclosing the well and above ground pump motor—does not present a fire hazard because the materials used to construct the enclosure are considered fire-resistant. Thus, with no greater potential for fire risk, no new or altered fire protection facilities will be required to serve this Project. Any impact to the existing fire protection system is considered random and less than significant. No additional mitigation is required.
- b. *Less Than Significant Impact* – The community of Phelan receives police services through the San Bernardino County Sheriff Department. The Department enforces local, state, and federal laws; performs investigations and makes arrests; administers emergency medical treatment; and responds to City emergencies. The sheriff station is located at 4050 Phelan Road, Phelan, CA 92371. The proposed project will not include the kind of use that would likely attract criminal activity, except for random trespass and theft; however, any random trespass is unlikely because the project site will be fenced to prevent any trespass from occurring during both operations and construction of the Project. The proposed facilities would not be readily accessible to the public as the project sites are fenced, or in the case of the pipeline below ground, so a less than significant potential exists for demand for police protection or expansion of police infrastructure. Therefore, implementation of the proposed project would not substantially increase the demand for law enforcement services beyond that already existing at the project sites.
- c-e. *No Impact* – The Project will not generate significant numbers of new long-term jobs, nor attract new residents to the area. As a result, the implementation of the Project will not result in substantial adverse physical impacts associated with the provision of new or physically altered

governmental facilities; need for new or physically altered governmental facilities; the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for public services to include: schools, parks, or other recreational activities. No impacts to schools, parks, or other public facilities are anticipated. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

SUBSTANTIATION

- a. *No Impact* – As previously discussed in Section XII, Population and Housing and Section XIII, Public Services, this Project will not contribute to an increase in the population beyond that already allowed or planned for by local and regional planning documents. The proposed project will not increase the use of recreational facilities, nor will it result in the physical deterioration of other surrounding facilities. No impact is forecast and no mitigation is required.
- b. *No Impact* – The proposed Project will develop a well to serve the community of Phelan, and will connect to SCWC’s water supply through the construction of about 0.5 miles of pipeline. The well and its associated facilities will be installed and operated by SCWC. There will be no adverse recreational effects on the environment from implementing this project. Therefore, no unavoidable impacts will result from project implementation. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVI. TRANSPORTATION / TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?		X		
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?		X		
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?			X	
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		X		
e) Result in inadequate emergency access?		X		
f) Result in inadequate parking capacity?			X	
g) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			X	

SUBSTANTIATION

a&b. *Less Than Significant With Mitigation Incorporated* – This project does not propose any new roads. In the short term, construction of the proposed facilities will result in the generation of up to about 10-15 additional roundtrips per day on the adjacent roadways by construction personnel and the removal of any graded material and delivery of well construction materials. Additionally, the proposed pipeline will be constructed within the existing rights-of-way along from the project site on Walnut Road, continuing east for several hundred feet until it reaches Monte Vista Road where it will continue from Walnut Road to Smoke Tree Road along Monte Vista Road. The pipeline will then reach SCWC’s existing water supply connection. These two roads are rural dirt roads that can handle average daily traffic (ADT) of about 6,000 vehicles per day and maintain level of service “C” or better. No new roads are required to construct or operated the proposed facilities; however, construction within existing roadways is necessary to complete construction of the pipeline

alignment. This will require the implementation of a traffic management plan in order to mitigate the congestion caused by constructing the pipeline within public rights-of-way or shoulders of the rights-of-way.

Implementation of the project has a potential to conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways, and freeways, pedestrian bicycle paths, and mass transit. However, with implementation of the following mitigation measure requiring a construction traffic management plan, the impacts of implementing the Project would be considered less than significant. Similarly, the Project could conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways; however with the implementation of the following mitigation measure requiring a construction traffic management plan, the impacts of implementing the project would be considered less than significant. No additional mitigation is required.

XVI-1 *The construction contractor will provide adequate traffic management resources, as determined by the County of San Bernardino. SCWC shall require a construction traffic management plan for work in public roads that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during excavation activities. The traffic management plan shall be prepared and approved by the County prior to initiation of excavation or pipeline construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.*

XVI-2 *SCWC shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.*

- c. *No Impact* – The proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. The proposed project would not impact air traffic. The proposed project is made up of surface level or low profile well infrastructure improvements and would not result in any interference with airspace.
- d. *Less Than Significant With Mitigation Incorporated* – The Project will temporarily alter existing roadways during construction of the proposed pipeline. However, this alteration will not create any hazards due to design features of incompatible uses. The proposed project will install approximately 0.5 miles of pipeline within existing rights-of-way, but with implementation of mitigation measures XVI-1 and XVI-2 above, which require implementation of a construction traffic management plan, any potential increase in hazards due to design features or incompatible use will

be considered less than significant in the short term. In the long term, no impacts to any hazards or incompatible uses in existing roadways are anticipated because once the pipeline is constructed, the roadway will be returned to its original condition, or better. Thus, any impacts are considered less than significant with implementation of mitigation. No additional mitigation is required.

- e. *Less Than Significant With Mitigation Incorporated* – The Project site includes direct access on Walnut Road, which is considered adequate for emergency purposes. According to the San Bernardino County General Plan, no known emergency access plans or routes or emergency response or evacuation plans will be affected by this Project in the long term. During construction, a potential exists for short-term hazards and constraints on both normal and emergency access within the affected area, especially due to the construction of the proposed pipeline alignment, as it will require partial lane closure within existing right-of-ways solely on two rural roadways. However, implementation of mitigation measures XVI-1 and XVI-2 will cause impacts to be reduced to a less than significant level. No additional mitigation is required.
- f. *Less Than Significant Impact* – The 0.5 acre property has ample room to park all construction and future maintenance vehicles on the site without affecting the adjacent graded dirt road right-of-way, Walnut Road.
- g. *Less Than Significant Impact* – The operation of the proposed well and associated pipeline has no potential to impact alternative transportation plans, policies or programs. The Project operations in the long term will not generate significant additional traffic and no new public roads or alterations to any existing public roads will result. Construction of the proposed pipeline alignment will occur within rural dirt roads that are not connected to public transit, do not contain bicycle lanes, or pedestrian facilities, and implementation of the proposed project would not otherwise decrease the performance or safety of such facilities in the short term. Impacts under this issue are considered less than significant. No mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVII. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?		X		
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		X		
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?		X		
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?		X		
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?			X	

SUBSTANTIATION

a-c. *Less Than Significant Impact With Mitigation Incorporated* – The proposed project would not exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB). The proposed development of the well will result in the construction of a new water facility—as the well itself will be a type of water facility. However, the construction of the well would not cause a significant environmental effect. The construction and development of a new well will fulfill current and future water needs that have resulted from a lack of water due to the drought within the community of Phelan. Development of such water facilities will not cause a significant environmental effect if the recommended mitigation measures—as identified in previous sections—are implemented.

The project-related disturbed areas will not generate substantial additional runoff as the areas are already disturbed. As previously stated, surface water at the site and within roadways generally flows south, and any rainfall remains on the project site, or if it flows offsite, sheet flow is discharged to the adjacent roadway shoulders. Thus, no substantial increase in runoff is forecast to result from

implementing the proposed project. Upon completion of construction all roadways will be returned to their original condition and the runoff patterns within the roadways containing the constructed pipeline will not change (reference mitigation measure VI-2 and XVI-2). Therefore, no new or substantially altered or expanded stormwater drainage facilities will be required for this Project. No discharge that would exceed treatment requirements of the Lahontan Regional Water Quality Control Board would be associated with the proposed project. However, in order to alleviate any potential impacts, SCWC will implement mitigation measures IX-2 and IX-4, which identify specific requirements to ensure that any discharged water will meet water quality standards of the aforementioned RWQCBs and that no significant degradation of surface water quality will result from the proposed project.

- d. *Less Than Significant Impact With Mitigation Incorporated* – Implementation of the proposed project will require SCWC to obtain an amended permit from Division of Drinking Water (DDW) to add new facilities to its existing system. The proposed well development is necessary to add new water to SCWC's system in order to provide an adequate amount of water to its customers during the drought. With the implementation of mitigation measure IX-3, which ensures that SCWC will not cause other wells within the area to experience a severe impact from drawing additional water from the Alto Subbasin of the Mojave River Basin, any impacts under this issue are considered less than significant. The DDW supports the adoption of an amended permit, assuming the testing of the new well supports that the well can be drawn from. Therefore, the Project will have sufficient water supply to serve the construction needs, and the development of the new well with the amended entitlements, will allow SCWC to serve the community with a greater water supply to provide necessary water in the drought. No further mitigation is required.
- e. *No Impact* – The proposed project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. The proposed project will develop a new well to supply SCWC's service area as its needs grow due to the drought; no potential exists to adversely impact a wastewater treatment provider. No mitigation is required.
- f&g. *Less Than Significant Impact* – Other than a small amount of construction wastes (concrete, wood, etc.) and a small amount of waste associated with operating the facilities, the Project will not generate a substantial amount of solid wastes and will not adversely affect the existing solid waste disposal system. Construction and demolition (C&D) waste will be recycled to the maximum extent feasible and any residual materials will be delivered to one of several C & D disposal sites in the area surrounding the project site. The Project will not conflict with any state, federal, or local regulations regarding solid waste. Solid waste will be disposed of in accordance with existing regulations at an existing licensed landfill—such as the Victorville Sanitary Landfill—with adequate capacity to handle the waste. According to the CalRecycle and San Bernardino County Solid Waste Management, which serves the community of Phelan, the maximum permitted capacity of Victorville Sanitary Landfill is 83,200,000 Cubic Yards (CY), while its remaining capacity is 81,510,000 CY. Thus, there is adequate solid waste disposal capacity for solid waste generated as a result of implementation of the proposed Project both in the short term and long term. These impacts are considered less than significant. No additional mitigation is required.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact or Does Not Apply
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?			X	
c) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		X		
d) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

SUBSTANTIATION:

- a. *Less Than Significant With Mitigation Incorporated* – Based on the analysis presented above, the SCWC Well Development Project can be implemented without causing any significant adverse environmental effects. This includes biological resources and cultural resources. Adequate mitigation has been provided to reduce potential impacts to cultural resources to a level of nonsignificance or to reduce less than significant impacts to the greatest extent feasible. Since the Project site has no known significant cultural or biological resources, the mitigation measures identified are contingency measures that will be implemented if certain conditions occur during construction activities at the site.
- b. *Less Than Significant Impact* – The proposed project consists of drilling a new well and connecting this well to the SCWC potable water distribution system. The preceding analysis of impacts indicates that this can be accomplished without causing any significant adverse effects. The goal of this project is to provide a supplemental water supply for the SCWC customers if other sources are not available for production. This appears to be both a short-term and long-term environmental goal that is fully consistent with the water rights allocation to SCWC.
- c. *Less Than Significant With Mitigation Incorporated* – The evaluation contained in this document determined that potential impacts to the environment can be reduced to a less than significant level with implementation of the identified mitigation measures. The issues for which mitigation has been

provided are Aesthetics, Air Quality, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, and Noise. Based on data provided in this document, including the type of project proposed, it is concluded that implementation of this project will not result in impacts that are either individually or cumulatively considerable or significant when viewed in relation to past, present or probable future projects.

- d. *Less Than Significant With Mitigation Incorporated* – This project will not result in any identifiable substantial adverse effects on humans either directly or indirectly. This project will result in the installation of an existing domestic water production well. The issues for which mitigation has been provided are Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, and Noise. With implementation of the required mitigation no substantial adverse effect to humans will result from carrying out the Project.

Therefore, based on the findings in this Initial Study, the State Water Resources Control Board's Division of Drinking Water (DDW) will process a Mitigated Negative Declaration as the appropriate CEQA environmental determination for the project. DDW will issue a Notice of Intent to Adopt a Mitigated Negative Declaration and circulate the Mitigated Negative Declaration package for the required 30-day public review period. Following receipt of comments, DDW will compile responses to any comments and prepare a final Mitigated Negative Declaration package for consideration by the agency. Based on the final Mitigated Negative Declaration package, DDW will consider whether implementation of the SCWC Well Development Project, as defined in this document, can proceed at the completion of the review process to implementation. If you or your agency comments on this proposed Mitigated Negative Declaration, you or your agency will be provided responses to comments and notified of the date of DDW's final review and decision. A decision by DDW to approve the environmental determination of the SCWC Well Development Project would be based on all of the information available in the whole of the record before the DDW at the conclusion of the CEQA environmental review process for this proposed project. Completion of the CEQA review process would allow the SCWC to implement the SCWC Well Development Project.

SUMMARY OF MITIGATION MEASURES

Aesthetics

- I-1 A facilities lighting plan shall be prepared and shall demonstrate that glare from operating and safety night lights that may create light and glare affecting adjacent occupied property are sufficiently shielded to prevent light and glare from spilling into occupied structures. This plan shall specifically indicate that the lighting doesn't exceed 1.0 lumen at the nearest residence to any lighting site within the project footprint. This plan shall be implemented by the SCWC to minimize light or glare intrusion onto adjacent properties.

Air Quality

III-1 Fugitive Dust Control

The following measures shall be incorporated into project plans and specifications for implementation:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed areas within the project are watered with complete coverage of disturbed areas at least two times a day, preferably in the mid-morning, afternoon, and after work is done for the day. Additional watering can be applied if fugitive dust is observed leaving the project site.
- The contractor shall ensure that traffic speeds on the project site are reduced to 10 miles per hour or less.
- Plans, specifications and contract documents shall direct that a sign must be posted on-site stating that construction workers shall not idle diesel engines in excess of five minutes.
- During grading activity, all construction equipment greater than 150 horsepower shall be California Air Resources Board (CARB) Tier 3 Certified.
- Only "Zero-Volatile Organic Compounds" paints (no more than 150 gram/liter of VOC) and/or High Pressure Low Volume (HPLV) applications consistent with existing MDAQMD rules and regulations shall be used when reservoirs are painted, if painted onsite.
- When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- All paved streets shall be swept at least once a day using MDAQMD certified street sweepers if visible soil materials are carried to adjacent streets.
- The contractor or builder shall designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite.
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 24 hours.
- Any on-site stockpiles of debris, dirt or other dusty material shall be covered or watered three times daily.

III-2 Exhaust Emissions Control

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3-rated or better heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

Biological Resources

- IV-1 The State of California prohibits the “take” of active bird nests. To avoid an illegal take of active bird nests, any grubbing, brushing or tree removal should be conducted outside of the the State identified nesting season (Raptor nesting season is February 15 through July 31; and migratory bird nesting season is March 15 through September 1). Alternatively, the site shall be evaluated by a qualified biologist prior to the initiation of ground disturbace to determine the presence or absence of nesting birds. Acitve bird nests MUST be avoided during the nesting season. If an active nest is located in the project construction area it will be flagged and a 300-foot avoidance buffer placed around it. No activity shall occur within the 300-foot buffer until the young have fledged the nest.

Cultural Resources

- V-1 Should any cultural resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection shall be performed immediately by a qualified archaeologist. Responsibility for making this determination shall be with the District onsite inspector. The archaeological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.
- V-2 Should any paleontologic resources be encountered during construction of these facilities, earthmoving or grading activities in the immediate area of the finds shall be halted and an onsite inspection should be performed immediately by a qualified paleontologist. Responsibility for making this determination shall be with the District onsite inspector. The paleontological professional shall assess the find, determine its significance, and make recommendations for appropriate mitigation measures within the guidelines of the California Environmental Quality Act.

Geology and Soils

- VI-1 Stored backfill material shall be covered with water resistant material during periods of heavy precipitation to reduce the potential for rainfall erosion of the material. If covering is not feasible, then measures such as the use of straw bales or sand bags shall be used to capture and hold eroded material on the project site for future cleanup.
- VI-2 Excavated areas shall be properly backfilled and compacted. Paved areas disturbed by this project will be repaved in such a manner that roadways and other disturbed areas are returned to as near the pre-project condition as is feasible.
- VI-3 All exposed, disturbed soil (trenches, stored backfill, etc.) will be sprayed with water or soil binders twice a day or more frequently if fugitive dust is observed migrating from the site within which the water facilities are being installed.
- VI-4 The length of trench which can be left open at any given time will be limited to that needed to reasonably perform construction activities. This will serve to reduce the amount of backfill stored onsite at any given time.
- VI-5 The SCWC shall identify any additional BMPs to ensure that the discharge of surface water does not cause erosion downstream of the discharge point. This shall be accomplished by reducing the energy of any site discharge through an artificial energy dissipater or equivalent device. If any substantial erosion or sedimentation occurs, any erosion or sedimentation damage shall be restored to pre-discharge conditions.

Hazards and Hazardous Waste

VIII-1 All spills or leakage of petroleum products during construction activities will be remediated in compliance with applicable state and local regulations regarding cleanup and disposal of the contaminant released. The contaminated waste will be collected and disposed of at an appropriately licensed disposal or treatment facility.

Hydrology and Water Quality

IX-1 SCWC shall test the groundwater produced from the well prior to discharge. Prior to or during discharge any contaminants shall be blended below the pertinent MCL or treated prior to discharge, including sediment or other material.

IX-2 The District shall require that the construction contractor prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving offsite into receiving waters. The SWPPP shall include a Spill Prevention and Cleanup Plan that identifies the methods of containing, cleanup, transport and proper disposal of hazardous chemicals or materials released during construction activities that are compatible with applicable laws and regulations. BMPs to be implemented in the SWPPP may include but not be limited to:

- The use of silt fences;
- The use of temporary stormwater desilting or retention basins;
- The use of water bars to reduce the velocity of stormwater runoff;
- The use of wheel washers on construction equipment leaving the site;
- The washing of silt from public roads at the access point to the site to prevent the tracking of silt and other pollutants from the site onto public roads;
- The storage of excavated material shall be kept to the minimum necessary to efficiently perform the construction activities required. Excavated or stockpiled material shall not be stored in water courses or other areas subject to the flow of surface water; and
- Where feasible, stockpiled material shall be covered with waterproof material during rain events to control erosion of soil from the stockpiles.

IX-3 SCWC shall conduct a pump test of the new well and determine whether any other wells are located within the cone of depression once the well reaches equilibrium. If any private wells are adversely impacted by future groundwater extractions from the proposed well, SCWC shall offset this impact through provision of water service; or adjusting the flow rates or hours of operation to mitigate adverse impacts.

IX-4 SCWC and construction contractor shall select best management practices applicable to the project site and activities on the site to achieve a reduction in pollutants to the maximum extent practicable (including but not limited the development and implementation of a SWPPP), both during and following development of the proposed municipal-supply water well and associated pipeline/facilities, and to control urban runoff after the project is constructed and the well (if approved for operation post well testing) is in operation.

Noise

XII-1 SCWC will require the implementation of adequate measures to reduce noise levels to the greatest extent feasible or below 65 dBA, including portable noise barriers or scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.

- XII-2 SCWC will require that all construction equipment be operated with mandated noise control equipment (mufflers or silencers). Enforcement will be accomplished by random field inspections by applicant personnel during construction activities.
- XII-3 SCWC will establish a noise complaint/response program and will respond to any noise complaints received for this project by measuring noise levels at the affected receptor. If the noise level exceeds an Ldn of 65 dBA exterior or an Ldn of 45 dBA interior at the receptor, the applicant will implement adequate measures to reduce noise levels to the greatest extent feasible, including portable noise barriers or scheduling specific construction activities to avoid conflict with adjacent sensitive receptors.
- XII-4 All construction activities other than well drilling shall be restricted to daylight hours, unless an emergency exists.
- XII-5 SCWC will require that well pump noise levels to be at or below 50 dB(A) at the nearest sensitive noise receptor. This can be accomplished by installing surface well housing, which can be housed in a block masonry structure that attenuates noise to meet this performance standard.
- XII-6 Upon request from adjacent residents, SCWC shall provide the option of relocating adjacent residents for the duration of active 24-hour drilling activity.
- XII-7 During future construction activities with heavy equipment within 300 feet of occupied residences, vibration field tests should be conducted at the nearest occupied residences. To the extent feasible, if vibrations exceed 72 VdB, the construction activities shall be revised to reduce vibration below this threshold.

Transportation / Traffic

- XVI-1 The construction contractor will provide adequate traffic management resources, as determined by the County of San Bernardino. SCWC shall require a construction traffic management plan for work in public roads that complies with the Work Area Traffic Control Handbook, or other applicable standard, to provide adequate traffic control and safety during excavation activities. The traffic management plan shall be prepared and approved by the County prior to initiation of excavation or pipeline construction. At a minimum this plan shall include how to minimize the amount of time spent on construction activities; how to minimize disruption of vehicle and alternative modes of transport traffic at all times, but particularly during periods of high traffic volumes; how to maintain safe traffic flow on local streets affected by construction at all times, including through the use of adequate signage, protective devices, flag persons or police assistance to ensure that traffic can flow adequately during construction; the identification of alternative routes that can meet the traffic flow requirements of a specific area, including communication (signs, webpages, etc.) with drivers and neighborhoods where construction activities will occur; and at the end of each construction day roadways shall be prepared for continued utilization without any significant roadway hazards remaining.
- XVI-2 SCWC shall require that all disturbances to public roadways be repaired in a manner that complies with the Standard Specifications for Public Works Construction (green book) or other applicable County of San Bernardino standard design requirements.

REFERENCES

Giroux & Associates, "Air Quality and GHG Impact Analyses, Sheep Creek Water Company Project, Phelan, California" dated November 6, 2016

Jericho Systems, Inc., "Biological Resources Assessment, Sheep Creek Water Company Well #5 Replacement Project, Phelan Area, County of San Bernardino, California" dated October 18, 2016

San Bernardino County, General Plan

USDA, Natural Conservation Service. Web Soil Survey, National Cooperative Soil Survey compiled 10/19/16

<http://maps.conservation.ca.gov/ciff/ciff.html>

<http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGP.pdf>

<http://www.quake.ca.gov/gmaps/RGM/sanbernardino/sanbernardino.html>

<http://www.sbcounty.gov/Uploads/lus/GeneralPlan/FINALGPtext20130718.pdf>

FIGURES

FIGURE 1 Regional Location

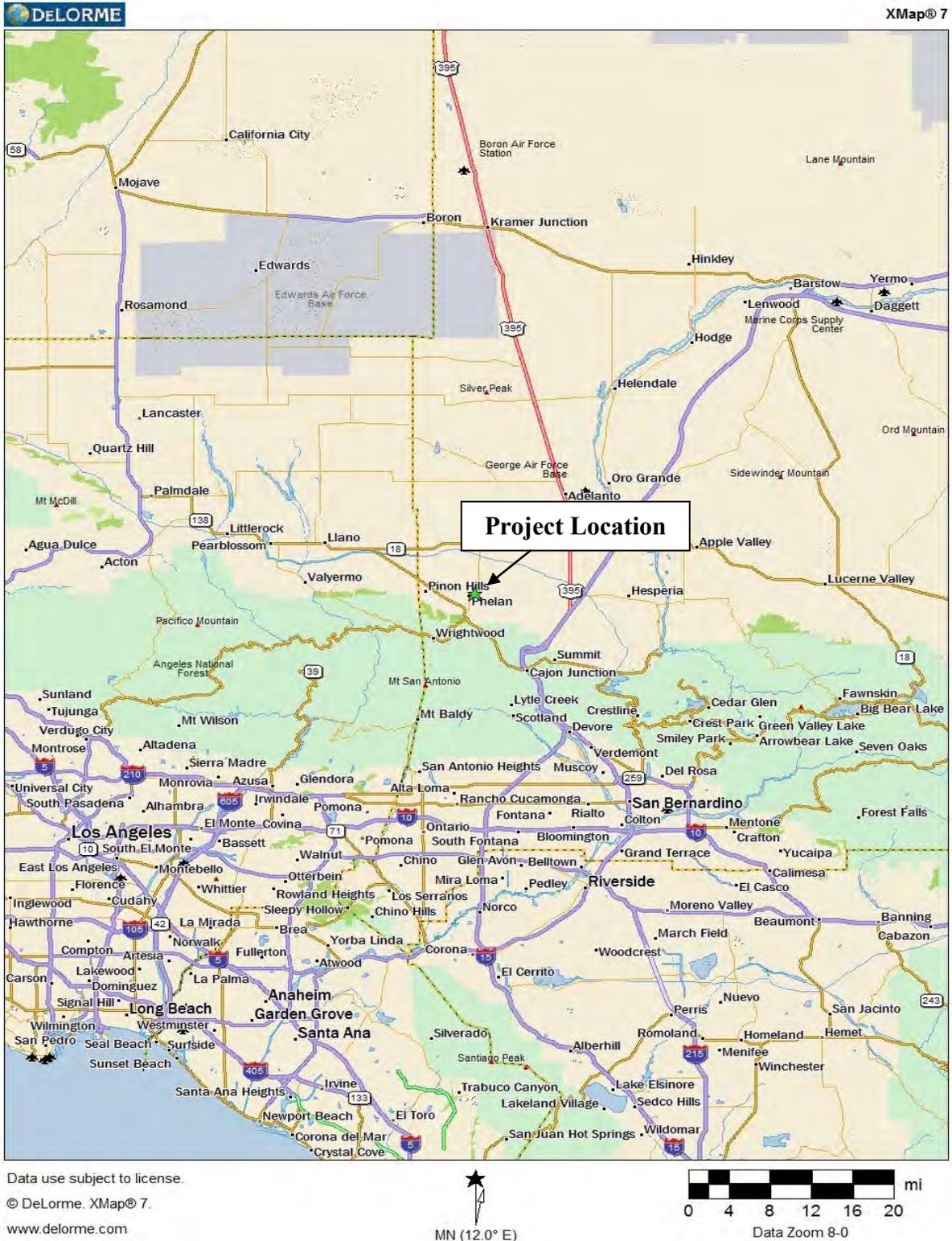
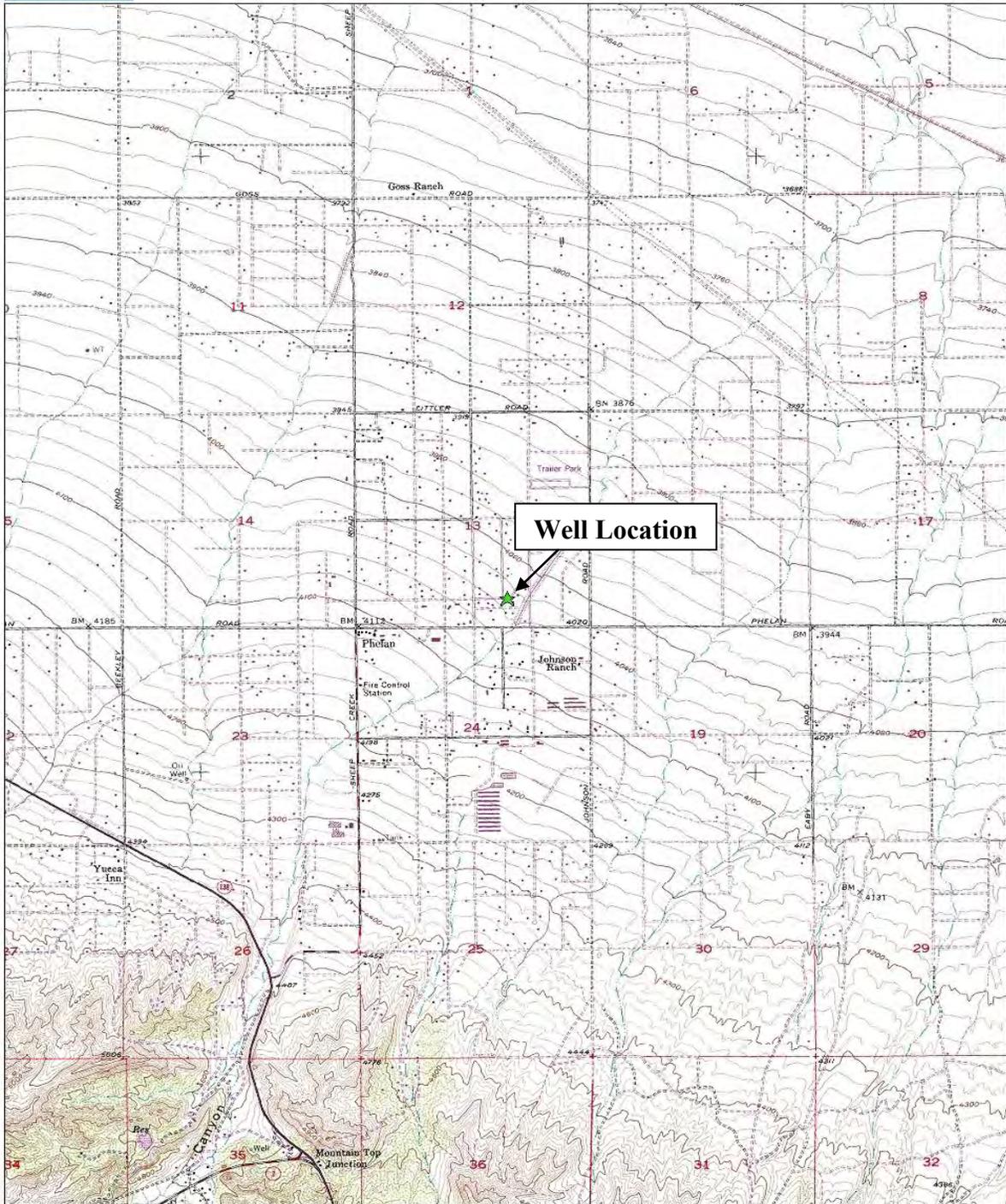


FIGURE 2 Site Location



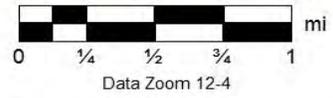
XMap® 7



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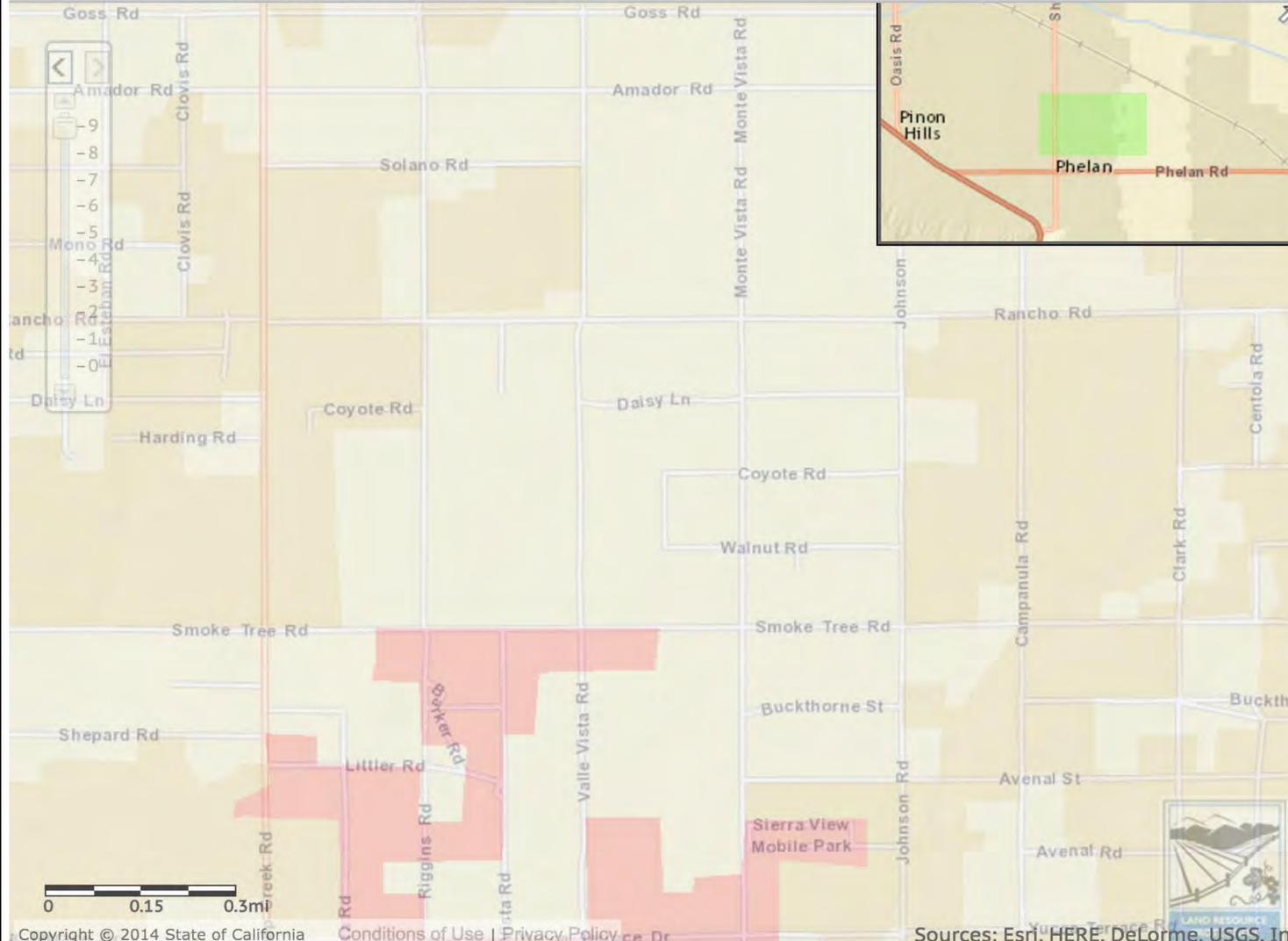
www.delorme.com



Data Zoom 12-4

FIGURE II-1 Farmland Map

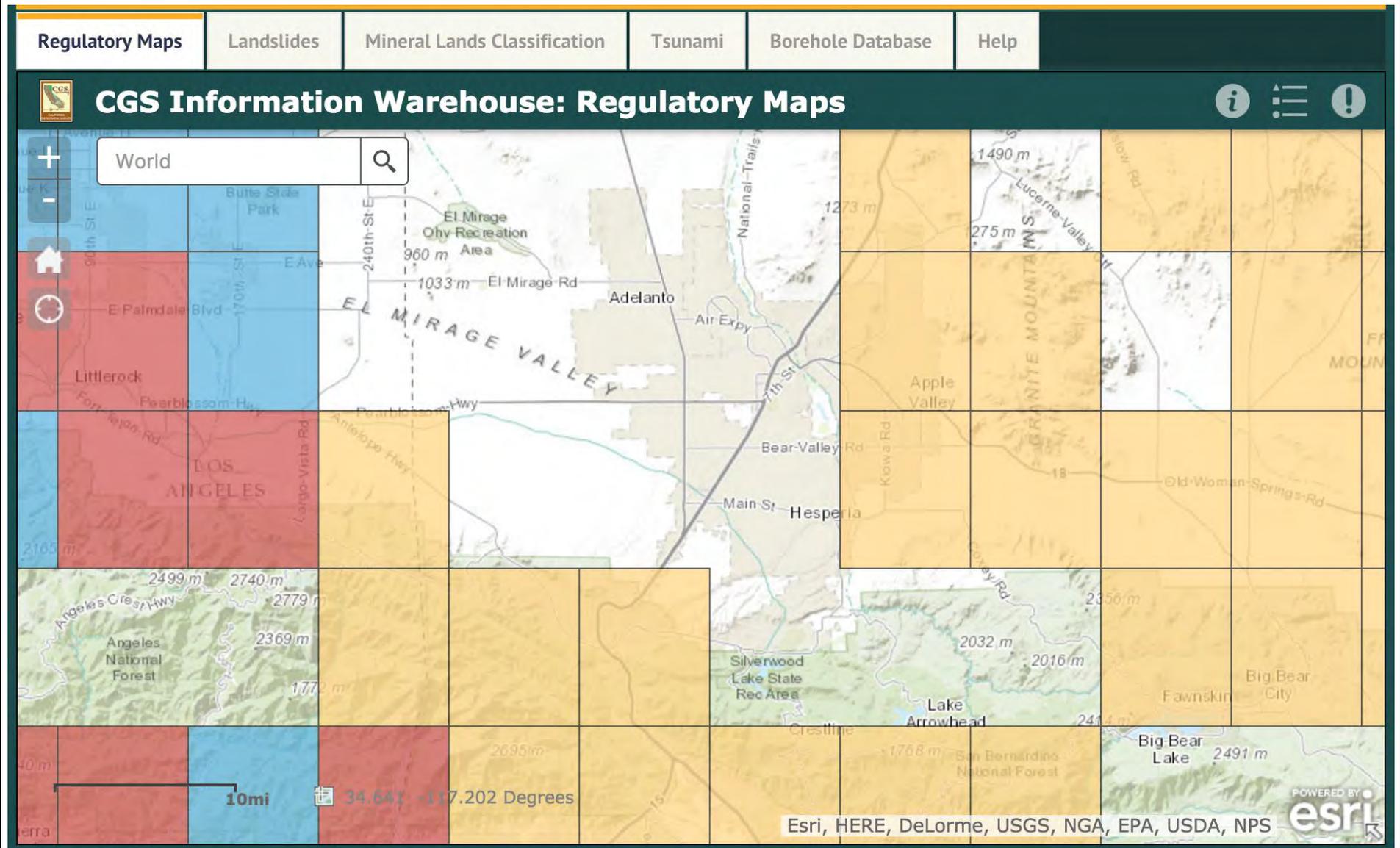
Change farmland layer transparency (0.5) Select County

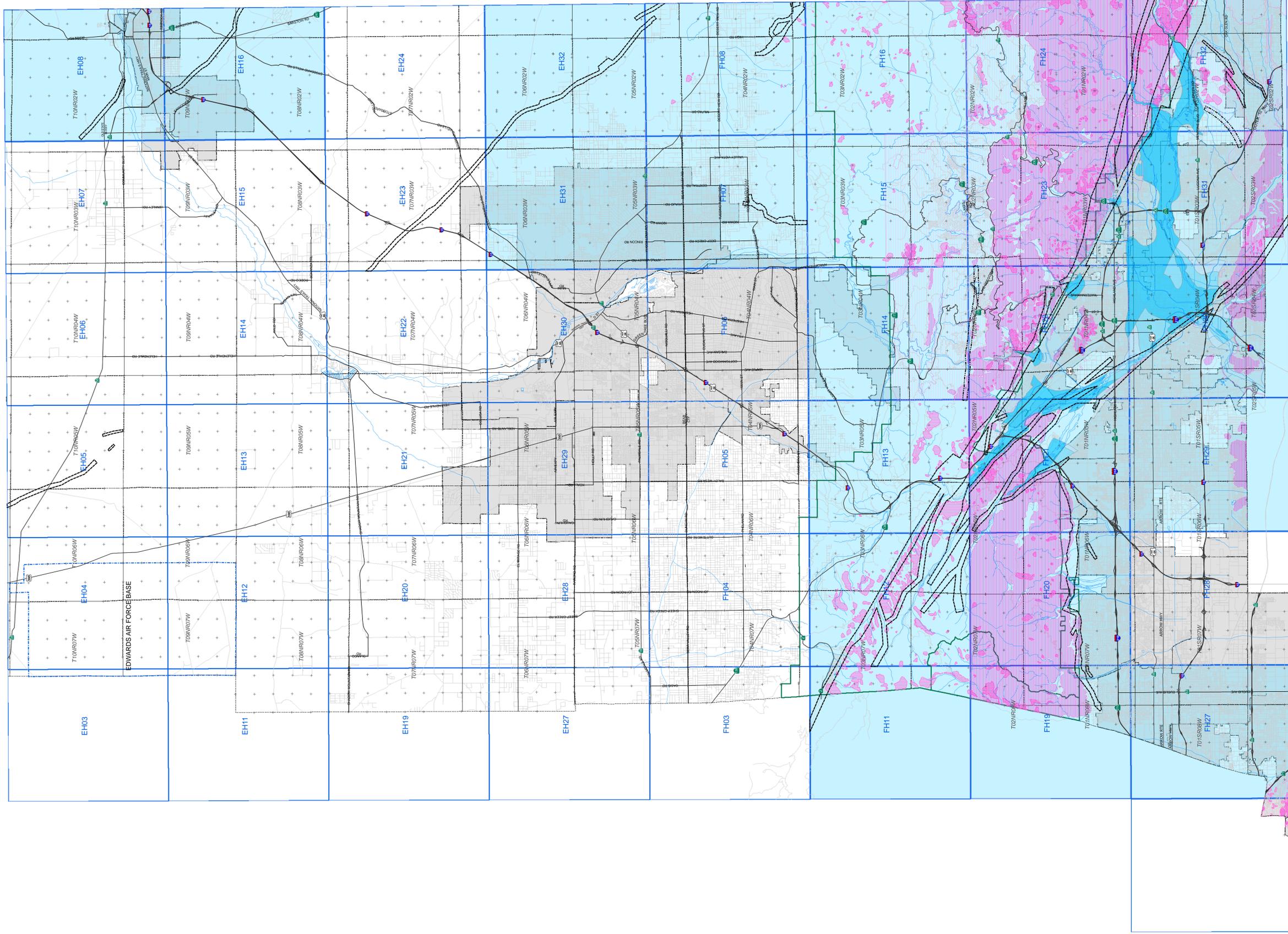


CIFF Farmland Type Legend

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Grazing Land
- Farmland of Local Importance
- Farmland of Local Potential
- Other Land
- Confined Animal Agriculture
- Nonagricultural or Natural Vegetation
- Vacant or Disturbed Land
- Rural Residential Land
- Semi-agricultural and Rural Commercial Land
- Urban and Built-Up Land
- Water Area
- Irrigated Farmland
- Nonirrigated Farmland
- Out of Survey Area

**FIGURE VI-1
Seismic Hazards Map**





San Bernardino County Land Use Plan
GENERAL PLAN
 Geologic Hazard Overlays

Zone of Suspected Liquefaction Susceptibility
 Zone of Susceptibility
 Circles

Generalized Landslide Susceptibility
 Low to Moderate
 Moderate to High
 Neglect Existing Landslide
 Neglect Existing Hazard Areas
 (Forest Only)

Map data originally compiled on 1:60,000 scale reconnaissance maps by the U.S. Geological Survey, 1974 and by U.S. Geological Survey, 1974. The County of San Bernardino, California, Department of Public Works, Division of Planning and Development, 2009. Positional accuracy of map data is at best plus or minus 200 feet.

Generalized Liquefaction Susceptibility
 Low
 Medium
 High

Map data originally compiled on 1:60,000 scale reconnaissance maps by the U.S. Geological Survey, 1974 and by U.S. Geological Survey, 1974. The County of San Bernardino, California, Department of Public Works, Division of Planning and Development, 2009. Positional accuracy of map data is at best plus or minus 150 feet.

Earthquake Fault Zones
 Earthquake Fault Zone Boundary
 County Designated Fault Zones
 Detail Quad Map

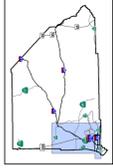
Map data compiled on 1:12,500 scale 1985 quadrangle maps by the State of California, Division of Mines and Geology, 1987. Positional accuracy of map data is at best plus or minus 100 feet. Earthquake Fault Zones are based on the "Special Studies Zones" map prepared by the State of California, Division of Mines and Geology, 1987. Positional accuracy of map data is at best plus or minus 100 feet.



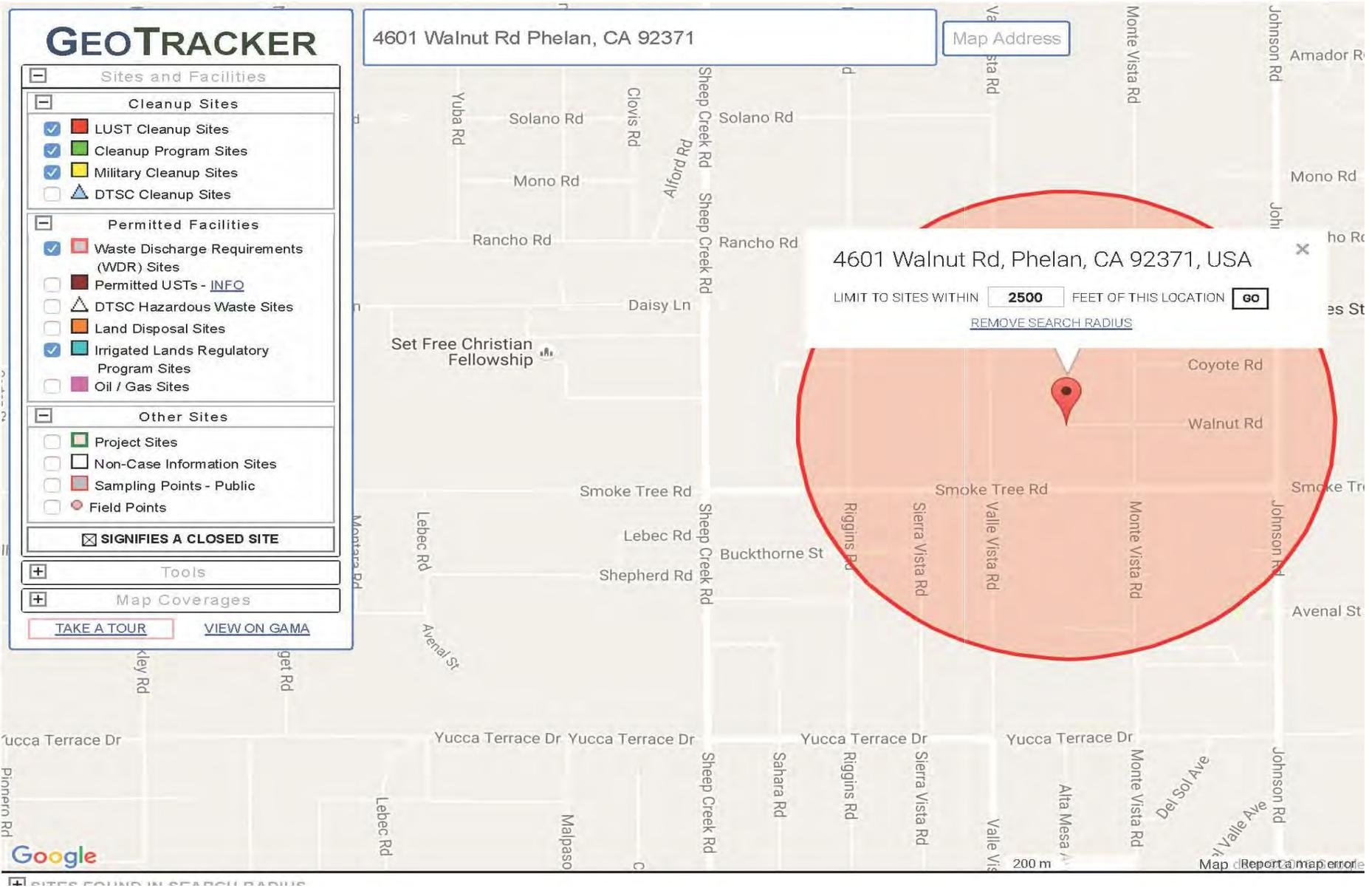
SCALE 1:115,200



FIGURE VI-2



**FIGURE VIII-1
Geotracker Overview**



APPENDIX 1

APPENDIX 2



October 18, 2016

Tom Dodson & Associates
Attn: Tom Dodson
2150 North Arrowhead Avenue
San Bernardino, CA 92405

RE: BIOLOGICAL RESOURCES ASSESSMENT
SHEEP CREEK WATER COMPANY WELL #5 REPLACEMENT PROJECT
PHELAN AREA, COUNTY OF SAN BERNARDINO, CALIFORNIA

Dear Mr. Dodson,

Jericho Systems, Inc. (Jericho) is pleased to provide the results of the general biological resources assessment of the Sheep Creek Water Company's (SCWC) Well #5 Replacement Project (project), located in the community of Phelan, San Bernardino County, California. SCWC is a Mutual Water company that provides water service to customers located within its service area, which includes a portion of the unincorporated community of Phelan. The SCWC provides this water service pursuant to the regulatory jurisdiction of the State Water Resources Control Board, Division of Drinking Water (DDW). SCWC is proposing to replace its existing Well #5 with a new well which serves as a primary backup to the existing water production system. The purpose of the assessment is to identify biological resources that occur within or adjacent to the project footprint and to determine if project-related impacts may result to those resources.

This letter report is designed to address potential effects of the proposed project to designated critical habitats and/or any species currently listed or formally proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA) or species designated as sensitive by the California Department of Fish and Wildlife (CDFW), or the California Native Plant Society (CNPS).

The site was assessed for sensitive species known to occur locally. Although several sensitive species have been documented in the project vicinity, there are no State- and/or federally-listed threatened or endangered species documented within 5 miles of the project site. The project site is within the historic range of the Mohave ground squirrel (*Xerospemophilus mohavensis*), which is a State-listed threatened species. Additionally, burrowing owl (*Athene cunicularia*), which are a Species of Special Concern SSC are known to occur within the region. Therefore, the project site was assessed to determine if suitable habitat for either species is present within the project area.

PROJECT DESCRIPTION

SCWC is proposing to replace its existing Well #5 with a new well which serves as a primary backup to the existing water production system that consists of the following facilities: Water Tunnel; Well #2A; Well #3A; Well #4A; Well #5; Well #8; and a backup connection to the Phelan Piñon Hills Community Services District. The proposed groundwater production well will be drilled on the project site to replace an existing well that is no longer capable of producing sufficient groundwater for potable water supply. It will be drilled to approximately 1,500 feet deep using a reverse rotary drill unit. The site will be accessed from the existing graded dirt road and the project does not anticipate removal of any soil from the site.

The well will be equipped with an above ground pump motor on top of an approximate 10-foot x 10-foot concrete pad. This new pump will be enclosed with a masonry block building to minimize exterior noise levels at the nearest residences (about 200 feet from the well site). To minimize onsite water consumption no new landscaping will be installed at the site which is consistent with the remainder of the project site.

SCWC also proposes to install about 0.5 mile of new pipeline to connect the new well to the existing water distribution system in Smoke Tree Road. The pipeline will range between 8 and 12 inches in diameter and will follow Walnut east to Monte Vista and then south on Monte Vista to where it will connect into the water line on Smoke Tree Road at its intersection with Smoke Tree Road.

The project is expected to begin construction after approval of the project by the SCWC Boards. It is estimated that the project will be completed in approximately 3 to 4 months. Active drilling is anticipated to require about 6 to 8 weeks. The well building will be constructed after the well has been drilled. It is expected that construction of the well building will take approximately 2 months to complete. Installation of new pipelines will require about 2 weeks.

PROJECT LOCATION

The project site is generally located within the unincorporated community of Phelan in the southeast quarter of Section 12, Township 4N, Range 7W, San Bernardino Base and Meridian. The project site is depicted on the *Phelan* U. S. Geological Survey's (USGS) 7.5-minute topographic map. Specifically, the site for the new well is located southwest of the intersection of Walnut Road and Monte Vista Road, approximately 500 feet north of Smoke Tree Road at Latitude: 34.442407°, Longitude: -117.561065°. The new connecting pipeline will be located within Walnut Road and Monte Vista Road, to the intersection of Monte Vista Road and Smoke Tree Road. The Regional Overview is shown on Figure 1 and the Site Location is shown on Figure 2.

The proposed project site encompasses approximately 0.5 acre (Figure 3). This site is essentially flat and has been previously graded and does not contain native habitat. There are no existing structures on the site. The County of San Bernardino has designated the site for rural residential use and surrounding development consists of rural residences to the north, east and west. Land use to the west consists of open space and rural residences about ¼ mile distant.

ENVIRONMENTAL SETTING

The Phelan area is subject to both seasonal and annual variations in temperature and precipitation. The local climatic conditions in the project area are characterized by hot summers, mild winters, infrequent rainfall, and dry humidity. The average annual temperature is 51degrees Fahrenheit (° F), ranging between an average low of 24.5° F in December to an average high of 83.1° F in July. The rainy season begins in December and continues through March, with the quantity and frequency of rain varying from year to year. The average annual rainfall is approximately 22.61 inches with a range of 0.08 inches in June to 4.99 inches in February.

Soils in this area are dominated by Cajon sand, 2 to 9 percent slopes. This series is comprised of alluvium derived from mixed sources and consists of sand and gravelly sand. This soil is somewhat excessively drained with very low runoff and is considered farmland of statewide importance.

Hydrologically, the Phelan area is located within an undefined Hydrologic Sub-Area (HSA 628.20) which comprises a 556,821-acre drainage area within the larger Mojave Watershed (HUC 18090208).

The site has been previously graded and does not contain native habitat. Surrounding land uses consist of rural residential and undeveloped. Remaining habitat within the undeveloped areas in the project vicinity

is mostly disturbed and consists of a mix of Rabbitbrush scrub (Holland code: 35400) and Desert saltbush scrub (Holland code: 36110).

SPECIAL STATUS SPECIES REGULATIONS

Special status species are native species that have been afforded special legal or management protection because of concern for their continued existence. There are several categories of protection at both federal and state levels, depending on the magnitude of threat to the continued existence and existing knowledge of population levels.

Federal Endangered Species Act

The U. S. Fish and Wildlife Service (USFWS) administers the federal Endangered Species Act (ESA) of 1973. The ESA provides a legal mechanism for listing species as either threatened or endangered, and a process of protection for those species listed. Section 9 of the ESA prohibits "take" of threatened or endangered species. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. "Take" can include adverse modification of habitats used by a threatened or endangered species during any portion of its life history. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act. Take authorization can be obtained under Section 7 or Section 10 of the act.

California Endangered Species Act

The CDFW, formerly Fish and Game, administers the state Endangered Species Act (CESA). The State of California considers an endangered species one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. And a rare species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species applies to California native plants. Further, all raptors and their nests are protected under Section 3503.5 of the California Fish and Game Code. Species that are California fully protected include those protected by special legislation for various reasons, such as the California condor. Species of Special Concern (SSC) is an informal designation used by CDFW for some declining wildlife species that are not proposed for listing as threatened or endangered. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFW.

The Migratory Bird Treaty Act

Nesting birds are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C 703-711). The MBTA provides protection for nesting birds that are both residents and migrants whether or not they are considered sensitive by resource agencies. The MBTA prohibits take of nearly all native birds. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The direct injury or death of a migratory bird, due to construction activities or other construction-related disturbance that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law. The USFWS, in coordination with the CDFW administers the MBTA. CDFW's authoritative nexus to MBTA is provided in FGC Sections 3503.5 which protects all birds of prey and their nests and FGC Section 3800 which protects all non-game birds that occur naturally in the State.

ASSESSMENT METHODOLOGY

Literature Review

Data regarding biological resources on the project site were obtained through literature review and field investigations. Prior to performing the surveys, available databases and documentation relevant to the project site was reviewed for documented occurrences of sensitive species in the area. The U.S. Fish and Wildlife Service (USFWS) threatened and endangered species occurrence data overlay, as well as the most recent versions of the California Natural Diversity Database (CNDDDB) and California Native Plant Society Electronic Inventory (CNPSEI) databases were searched for sensitive species data on the *Phelan* USGS 7.5-minute series quadrangle. These databases contain records of reported occurrences of State- and federally-listed species or otherwise sensitive species and habitats that may occur within the vicinity of the proposed project. Other available technical information on the biological resources of the area was also reviewed including previous surveys and recent findings.

Field Study

Jericho biologists Shannon Dye and Todd White conducted a biological resources assessment of the project area on October 12, 2016. The survey area encompassed both the proposed new well site and connecting pipeline alignment. Wildlife species were detected during field surveys by sight, calls, tracks, scat, or other sign. In addition to species actually observed, expected wildlife usage of the site was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. The main focus of the faunal species surveys was to identify potential habitat for special status wildlife within the project area.

RESULTS – LITERATURE REVIEW

According to the CNDDDB, CNPSEI, and other relevant literature and databases, seven sensitive species have been documented in the *Phelan* USGS 7.5-minute series quadrangle. This list of sensitive species and habitats includes any State- and/or federally-listed threatened or endangered species, CDFW designated SSC, and otherwise Special Animals. “Special Animals” is a general term that refers to all of the taxa the CNDDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of “species at risk” or “special status species.” The CDFW considers the taxa on this list to be those of greatest conservation need.

An analysis of the likelihood for occurrence of all CNDDDB and CNPSEI sensitive species documented in the *Phelan* quad is provided in Table 1. This analysis takes into account species range as well as documentation within the vicinity of the project area and includes the habitat requirements for each species and the potential for their occurrence on the site, based on required habitat elements and range relative to the current site conditions. According to the databases, no sensitive habitat, including USFWS designated critical habitat, occurs within or adjacent to the project site.

Special Status Species Background

Mohave Ground Squirrel

The Mohave ground squirrel (MGS) is a State-listed threatened species. MGS is endemic to two million hectares in the western Mojave Desert. It typically inhabits sandy soils of alkali sink and creosote bush scrub habitat. In much of this region, the geographic range of the species is considered to lie west of the Mojave River. However, in the Victorville and Barstow areas, there are records of MGS occurrence on the east side of the Mojave River. MGS are listed as threatened by CDFW due to habitat loss, fragmentation, and deterioration (Brooks and Matchett 2002). CDFW does not designate critical habitat for this species.

MGS is small, grayish, diurnal squirrel measuring about 9 inches from nose to tip of tail. They forage on leaves and seeds, and aestivate/hibernate for long periods of the year. Plants documented as forage for MGS include: fiddleneck (*Amsinckia tessellata*), allscale (*Atriplex canescens* and *A. polycarpa*), desert holly (*A. hymenelytra*), coreopsis (*Coreopsis* sp.), spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), wolfberry (*Lycium andersonii*), Joshua tree (*Yucca brevifolia*) and the seeds of Joshua tree. It is suspected that MGS forage on the plant species with the highest water content available at the time. The project site falls within the historic range of the MGS but is located outside, to the south, of the Mohave ground squirrel Conservation Area set forth in the West Mojave Plan (U.S. Bureau of Land Management 2005).

Burrowing Owl

The burrowing owl (BUOW) is a ground dwelling owl typically found in arid prairies, fields, and open areas where vegetation is sparse and low to the ground. The BUOW is heavily dependent upon the presence of mammal burrows, with ground squirrel burrows being a common choice, in its habitat to provide shelter from predators, inclement weather and to provide a nesting place (Coulombe 1971). They are also known to make use of human-created structures, such as cement culverts and pipes, for burrows. BUOW spend a great deal of time standing on dirt mounds at the entrance to a burrow, or perched on a fence post or other low to the ground perch from which they hunt for prey. They feed primarily on insects such as grasshoppers, June beetles and moths, but will also take small rodents, birds, and reptiles. They are active during the day and night, but are considered a crepuscular owl; generally observed in the early morning hours or at twilight. The breeding season for BUOW is February 1 through August 31.

Throughout its range, the BUOW is vulnerable to habitat loss, predation, vehicular collisions, and destruction of burrow sites and poisoning of ground squirrels (Grinnell and Miller 1944, Zarn 1974, Remsen 1978). BUOW have disappeared from significant portions of their range in the last 15 years and, overall, nearly 60% of the breeding groups of owls known to have existed in California during the 1980s had disappeared by the early 1990s (Burrowing Owl Consortium 1993). The BUOW is not listed under the State or federal ESA, but is considered both a State and federal SSC. The BUOW is a migratory bird protected by the international treaty under the Migratory Bird Treaty Act of 1918 and by State law under the California Fish and Game Code (CDFG Code #3513 & #3503.5).

RESULTS – FIELD STUDY

Habitat

The project site has been previously graded and does not contain native habitat. The surrounding area does contain some remnant Rabbitbrush scrub (Holland code: 35400) and Desert saltbush scrub (Holland code: 36110) community, consisting of low-growing perennial plants with a few taller shrubs and trees. Native species observed within and/or adjacent the project site include bursage (*Ambrosia acanthicarpa*), burrobush (*A. salsola*), four-wing saltbush (*Atriplex canescens*), rabbitbrush (*Ericameria nauseosa*), California buckwheat (*Eriogonum fasciculatum*), California juniper (*Juniperus californica*) and Joshua tree (*Yucca brevifolia*). The ground cover on site is dominated by red stemmed filaree (*Erodium cicutarium*) and non-native grass (*Schismus* sp.). Other non-native species observed onsite and surrounding area include foxtail chess (*Bromus madritensis*) and Russian thistle (*Salsola tragus*). The site is bordered by established residences, a frontage road (Walnut Road) and disturbed undeveloped areas.

Wildlife

Wildlife species observed or otherwise detected on or in the vicinity of the project site during the surveys included California quail (*Callipepla californica*), common raven (*Corvus corax*), white-crowned sparrow (*Zonotrichia leucophrys*), and several unidentified small mammal burrows.

The project site is in the community of Phelan and completely surrounded by residential development. In addition, the site has been previously disturbed by grading. However, the conditions on site, as well as some of the adjacent area, are marginally-suitable for several sensitive species identified in the CNDDDB search (Table 1).

Special Status Species

No State- and/or federally-listed threatened or endangered species, or other sensitive species were observed on site during surveys.

Mohave Ground Squirrel

Although a focused MGS trapping survey was not performed, Jericho conducted a MGS habitat assessment of the proposed project site. The habitat assessment for MGS included a pedestrian field assessment, review of reported occurrences of the MGS in the region (CNDDDB 2016), and adherence to CDFW's criteria for assessing potential impacts to the Mohave ground squirrel. The criteria questions are as follows:

1. *Is the site within the range of the MGS?;*
2. *Is there native habitat with a relatively diverse shrub component?; and*
3. *Is the site surrounded by development and therefore isolated from potentially occupied habitat?*

The subject parcel falls within the historic range of the MGS but is located outside, to the south, of the MGS Conservation Area set forth in the West Mojave Plan (U.S. Bureau of Land Management 2005). According to the CNDDDB, the nearest documented MGS occurrence (2005) is approximately 9 miles east of the project site, on the north side of the California Aqueduct. The location of this occurrence is separated from the project area by the California Aqueduct and extensive development. Numerous protocol MGS trapping grids were sampled in the vicinity of the project area between 1998 and 2007 and again between 2008 and 2012. MGS were not detected and were considered absent during those protocol trapping sessions, which suggests that local extirpations may have occurred in recent decades throughout much of the southern part of the historic range (Leitner 2015).

The project site mostly consists of non-native grasses and other ruderal vegetation, with very little native vegetation present. Furthermore, the project site is situated south of the California Aqueduct and is surrounded by development, both of which provide an impermeable barrier to potentially occupied habitat located north of the aqueduct. Therefore, it is assumed that the site is not occupied by MGS and no potential direct or indirect impacts to MGS can be identified. Focused presence/absence surveys for this species are not warranted or recommended.

Burrowing owl

The assessment survey was structured, in part, to detect BUOW. The survey consisted of walking transects spaced to provide 100% visual coverage of the project site. The result of the survey was that no evidence of BUOW was found in the survey area. No BUOW individuals or sign including pellets, feathers or white wash were observed.

According to the definition provided in the *2012 CDFG Staff Report on Burrowing Owl Mitigation*, “Burrowing owl habitat generally includes, but is not limited to, short or sparse vegetation (at least at some time of year), presence of burrows, burrow surrogates or presence of fossorial mammal dens, well-drained soils, and abundant and available prey.” The project site and immediate vicinity does not contain suitable habitat for this species for the following reasons:

- *No appropriately sized mammal burrows were observed within the project area during survey;*
- *No BUOW host burrowers, such as ground squirrel, were observed within the project area during survey; and*
- *No burrow surrogates, such as pipes or other man-made structures that could be utilized as burrow surrogates were observed within the project area.*

Furthermore, there are no BUOW occurrences documented within the *Phelan* quad. According to the literature review, the nearest documented BUOW occurrence (2006) is approximately 8 miles northeast of the project area, north of the California Aqueduct, between Baldy Mesa Road and Highway 395. Therefore, it is assumed that the site is not occupied by BUOW and no potential direct or indirect impacts to BUOW can be identified. Focused presence/absence surveys for this species are not warranted or recommended.

Designated Critical Habitat

The site is not located within or adjacent any USFWS designated Critical Habitat nor is it within a Desert Wildlife Management Area. No further action is required.

Nesting Birds

The project site and immediate surrounding areas do contain habitat suitable for nesting birds. Nesting bird surveys should be conducted prior to any construction activities taking place during the nesting season to avoid potentially taking any birds or active nests. In general, impacts to all bird species (common and special status) can be avoided by conducting work outside of the nesting season (generally February 1st to August 31st), and conducting a worker awareness training. However, if all work cannot be conducted outside of nesting season, a project-specific Nesting Bird Management Plan can be prepared to determine suitable buffers.

CONCLUSIONS AND RECOMMENDATIONS

Based on the literature review and personal observations made in the immediate vicinity, no State- and/or federally-listed threatened or endangered species are documented/or expected to occur within the survey area (project site). No other sensitive species were observed within the project area. Furthermore, no suitable habitat exists within the project area that would be considered suitable for MGS or BUOW. Therefore, no focused presence/absence surveys for either of these species are warranted or recommended.

Since there is some habitat within the project site and adjacent area that is suitable for nesting birds in general, a preconstruction nesting bird survey is recommended prior to the commencement of any project-related work activities to avoid any potential project-related impacts to nesting birds.

Please do not hesitate to contact me at 909-915-5900 should you have any questions or require further information.

Sincerely,



Shay Lawrey, President
Ecologist/Regulatory Specialist

Attachments:

Attachment A – Table 1

Attachment B – Figures 1-3

Attachment C – Site Photographs

REFERENCES

- Burt, William H. and Richard P. Grossenheider 1980. Peterson Field Guides: A field guide to the Mammal: North America north of Mexico, third edition. Houghton Mifflin Company, New York.
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Table 1. CNDDDB & CNPSEI Sensitive Species Documented within the *Phelan* USGS 7.5-Minute Quadrangle

Scientific Name	Common Name	Status Federal/ State	Other Listings	Habitat	Occurrence Potential
<i>Bombus crotchii</i>	Crotch bumble bee	None/ None	G3G4; S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	There is not sufficient amount of food plants for this species present within the project site. Occurrence potential is low .
<i>Canbya candida</i>	white pygmy-poppy	None/ None	G3G4; S3S4; CNPS: 4.2	Joshua tree woodland, Mojavean desert scrub, Pinon & juniper woodlands. Sandy places. 600-1460 m.	This species has been documented in the project vicinity, within disturbed habitat similar to that found within the project area. Occurrence potential is moderate .
<i>Castilleja plagiotoma</i>	Mojave paintbrush	None/ None	G4; S4; CNPS: 4.3	Great Basin scrub, pinyon-juniper woodland, Joshua tree woodland, lower montane coniferous forest. Alluvial fans. 300-2500 m.	This species has been documented in the project vicinity, within disturbed habitat similar to that found within the project area. Occurrence potential is moderate .
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	None/ None	G5T3; S3; CNPS: 1B.2	Chaparral, Joshua tree woodland, Mojavean desert scrub, Pinon & juniper woodlands. Sandy soil or coarse, granitic loam. 425-1800 m.	This species is absent from the project area.
<i>Phrynosoma blainvillii</i>	coast horned lizard	None/ None	G3G4; S3S4; CDFW: SSC	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub, Desert wash, Pinon & juniper woodlands, Riparian scrub, Riparian woodland, Valley & foothill grassland. Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	Some marginally-suitable habitat for this species is present within the project area and this species' primary food source (harvester ants) were observed on site. Occurrence potential for this species is moderate .
<i>Quercus turbinella</i>	shrub live oak	None/ None	G5; S4; CNPS: 4.3	Chaparral, cismontane woodland, lower montane coniferous forest, pinyon-juniper woodland. 1200-2000 m.	This species is absent from the project area.
<i>Toxostoma lecontei</i>	Le Conte's thrasher	None/ None	G4; S3; CDFW: SSC	Desert wash, Mojavean desert scrub, Sonoran desert scrub. Desert resident; primarily of open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub habitats. Commonly nests in a dense, spiny shrub or densely branched cactus in desert wash habitat, usually 2-8 feet above ground.	No suitable habitat for this species exists within the project site. However, there is some suitable habitat adjacent the project site. Occurrence potential is moderate in the area surrounding the project site.

Coding and Terms

E = Endangered T = Threatened C = Candidate FP = Fully Protected SSC = Species of Special Concern R = Rare

State Species of Special Concern: An administrative designation given to vertebrate species that appear to be vulnerable to extinction because of declining populations, limited acreages, and/or continuing threats. Raptor and owls are protected under section 3502.5 of the California Fish and Game code: “It is unlawful to take, possess or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess or destroy the nest or eggs of any such bird.

State Fully Protected: The classification of Fully Protected was the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians and reptiles. Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Global Rankings (Species or Natural Community Level):

- G1 = Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2 = Imperiled – At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3 = Vulnerable – At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4 = Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 = Secure – Common; widespread and abundant.

Subspecies Level: Taxa which are subspecies or varieties receive a taxon rank (T-rank) attached to their G-rank. Where the G-rank reflects the condition of the entire species, the T-rank reflects the global situation of just the subspecies. For example: the Point Reyes mountain beaver, *Aplodontia rufa* ssp. *phaea* is ranked G5T2. The G-rank refers to the whole species range i.e., *Aplodontia rufa*. The T-rank refers only to the global condition of ssp. *phaea*.

State Ranking:

- S1 = Critically Imperiled – Critically imperiled in the State because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
- S2 = Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State.
- S3 = Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the State.
- S4 = Apparently Secure – Uncommon but not rare in the State; some cause for long-term concern due to declines or other factors.
- S5 = Secure – Common, widespread, and abundant in the State.

California Rare Plant Rankings (CNPS List):

- 1A = Plants presumed extirpated in California and either rare or extinct elsewhere.
- 1B = Plants rare, threatened, or endangered in California and elsewhere.
- 2A = Plants presumed extirpated in California, but common elsewhere.
- 2B = Plants rare, threatened, or endangered in California, but more common elsewhere.
- 3 = Plants about which more information is needed; a review list.
- 4 = Plants of limited distribution; a watch list.

Threat Ranks:

- .1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

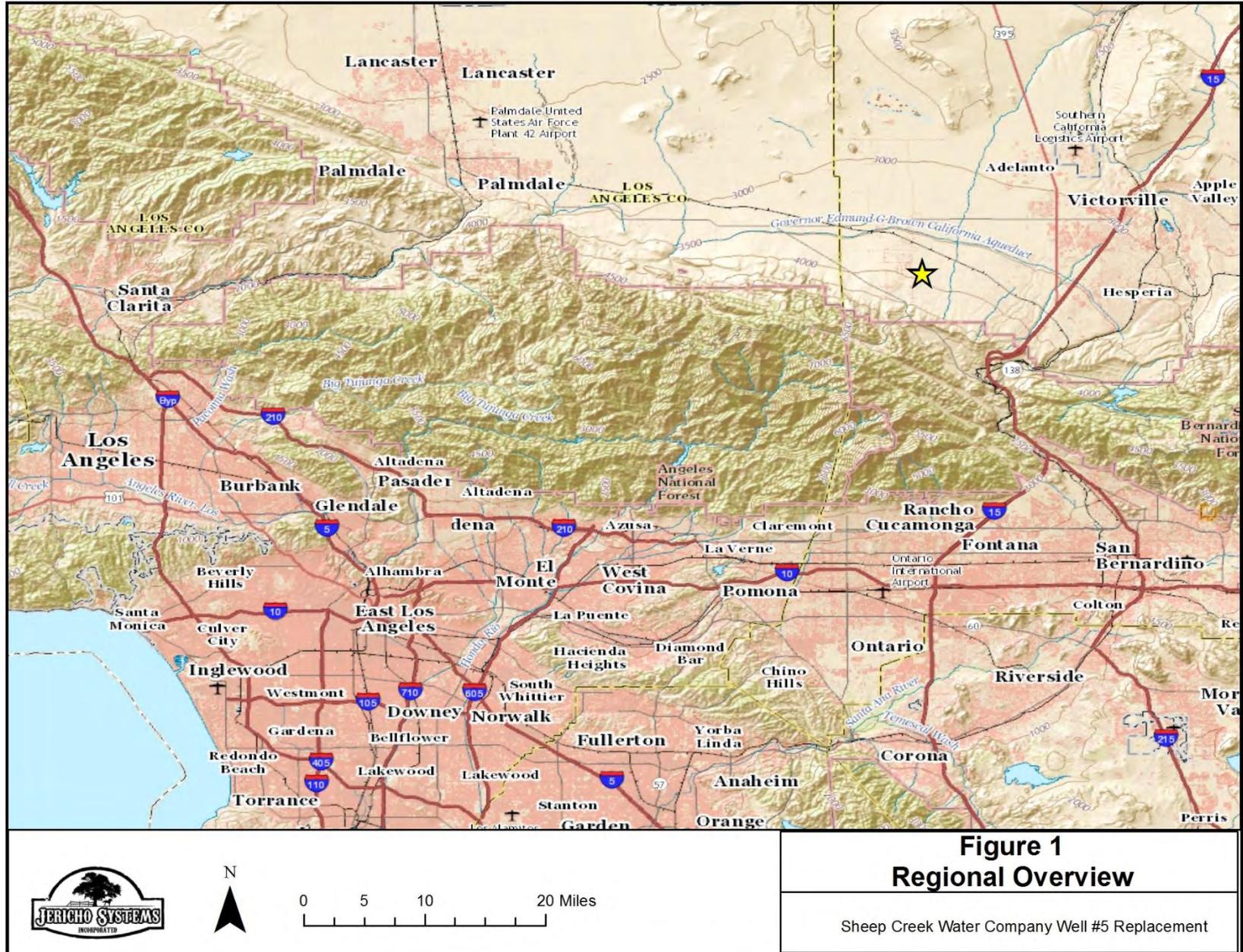
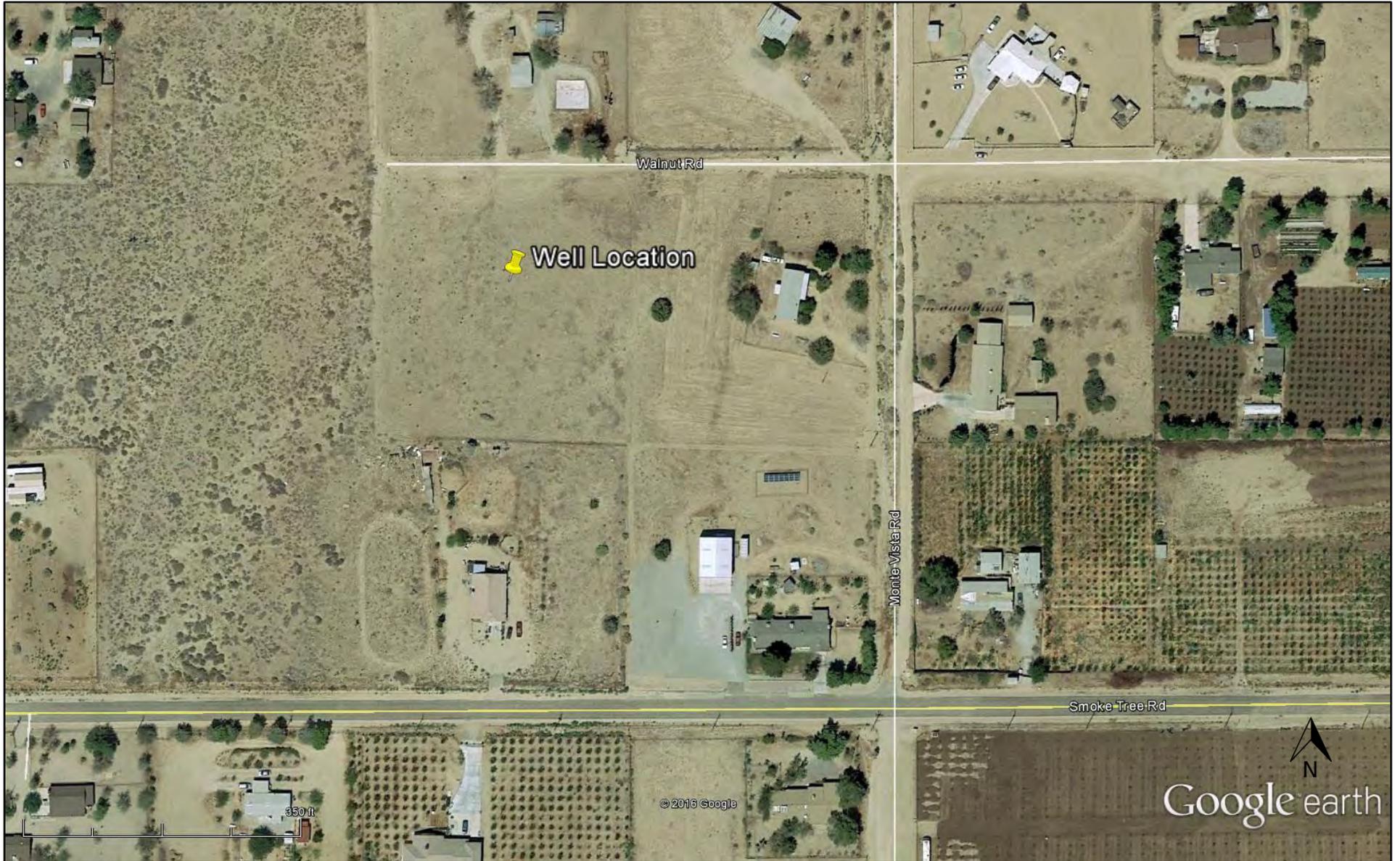




Figure 3. Aerial View of Project Site



Site Photographs



Photo 1. New well site; looking south from north side of project site.



Photo 2. New well site; looking west from east side of project site.



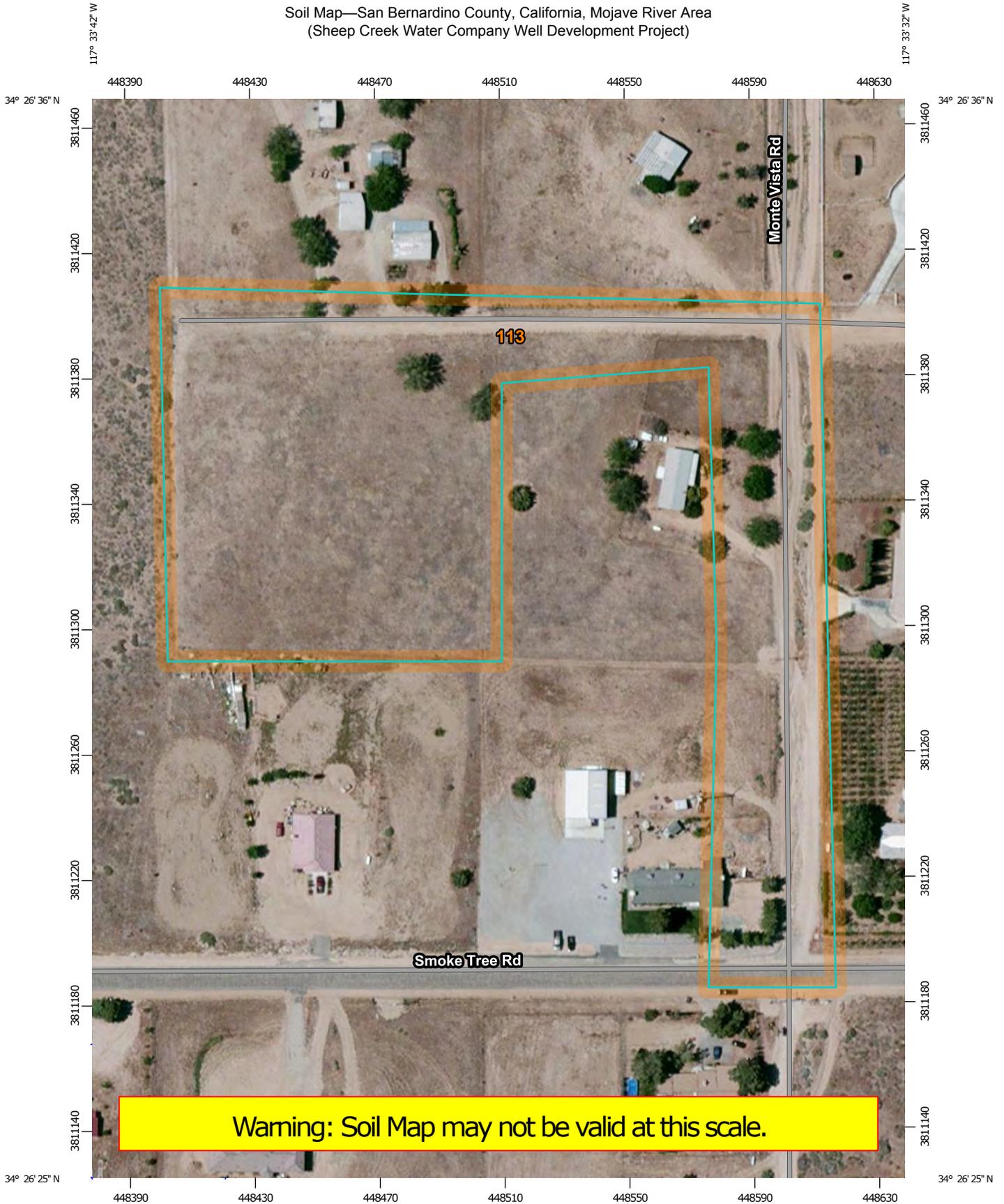
Photo 3. Connecting pipeline alignment; looking east along south side of Walnut Road.



Photo 4. Connecting pipeline alignment; looking south along west side of Monte Vista Road.

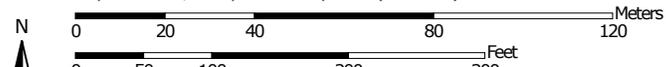
APPENDIX 3

Soil Map—San Bernardino County, California, Mojave River Area
(Sheep Creek Water Company Well Development Project)



Warning: Soil Map may not be valid at this scale.

Map Scale: 1:1,680 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

10/19/2016
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Soil Map—San Bernardino County, California, Mojave River Area
(Sheep Creek Water Company Well Development Project)

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area

Survey Area Data: Version 7, Sep 8, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 5, 2010—Jul 3, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

San Bernardino County, California, Mojave River Area (CA671)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
113	CAJON SAND, 2 TO 9 PERCENT SLOPES	5.6	100.0%
Totals for Area of Interest		5.6	100.0%